



TWENTIETH ACADEMIC YEAR.

ANNUAL REGISTER

OF THE

UNITED STATES NAVAL ACADEMY

AT

ANNAPOLIS, MD.,

FOR

THE ACADEMIC YEAR 1869-'70.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1869.

NAVAL SCHOOL.

FOUNDED OCTOBER 10, 1845.

JAMES K. POLK, *President of the United States.*
GEORGE BANCROFT, *Secretary of the Navy.*

The Naval School was reorganized on the 1st July, 1850, under the title of Naval Academy, as a school of theoretical and practical science. At that time the course of instruction was materially enlarged, and the institution was placed under the supervision of the Chief of the Bureau of Ordnance and Hydrography.

In October, 1851, the present course of instruction of four years was adopted.

On the establishment of the Bureau of Navigation, (July 5, 1862,) the academy was placed under its supervision.

March 1, 1867, it was placed under the direct care and supervision of the Secretary of the Navy, and its departmental administrative routine and financial management conducted through the Bureau of Navigation, in the Navy Department.

Since March 11, 1869, it has been under the direct care and spvervision of the Secretary of the Navy.

BOARD OF VISITORS.

The following named gentlemen were invited by the Hon. Secretary of the Navy to attend the examination of the midshipmen of the Naval Academy in May, 1869.

Rear-Admiral HIRAM PAULDING, U. S. N., *President.*
Commodore JOHN R. GOLDSBOROUGH, U. S. N.
JOSEPH R. HAWLEY, of Connecticut.
Captain ENOCH G. PARROTT, U. S. N.
WILLIAM J. ALBERT, of Maryland,
Surgeon WILLIAM M. WOOD, U. S. N.
D. C. HUMPHREYS, of Alabama.
Chief Engineer CHARLES H. LORING, U. S. N.
SIMEON B. CHITTENDEN, of New York.
WILLIAM H. WADSWORTH, of Kentucky.

EXTRACT FROM THE REGULATIONS OF THE NAVAL ACADEMY.

CHAP. VI, SEC. 9.—The Secretary of the Navy will, when expedient, annually invite not less than seven persons, such as he may judge well qualified, to attend at the academy during the May examination as a Board of Visitors, for the purpose of witnessing the examination of the graduating and other classes, and of examining into the state of the police, discipline, and general management of the institution; the result of which examination they will report to the Secretary of the Navy.

ACADEMIC BOARD.

DAVID D. PORTER, Vice-Admiral, *President.*

NAPOLEON B. HARRISON, Captain.....*Commandant of Midshipmen, Head of Department of Seamanship, Gunnery, Naval and Infantry Tactics, &c.*
JOSEPH S. SKERRETT, Commander*Assistant to Commandant of Midshipmen, in charge of Department of Seamanship, &c.*
EDWARD TERRY, Lieut. Com'r.....*Assistant to Commandant of Midshipmen, in charge of Department of Gunnery, &c.*
GEORGE DEWEY, Lieut. Com'r.....*Assistant to Commandant of Midshipmen, in Executive Duty in charge of Vessels.*
CHARLES L. FRANKLIN, Lieut. Com'r....*Assistant to Commandant of Midshipmen, in Executive Duty.*
WILLIAM H. WILLCOX, Professor.....*Head of Department of Mathematics.*
HENRY L. SNYDER, 1st Asst. Engineer ..*Head of Department of Steam Engineery.*
ROBERT L. PHYTHIAN, Lieut. Com'r*Head of Department of Astronomy, Navigation, &c.*
WILLIAM T. SAMPSON, Lieut. Com'r....*Head of Department of Natural and Experimental Philosophy.*
THOMAS L. SWANN, Lieut. Com'r.....*Head of Department of Ethics and English Studies.*

OFFICERS OF THE NAVAL ACADEMY.

Vice-Admiral DAVID D. PORTER, *Superintendent.*

JAMES M. ALDEN, *Secretary to the Vice-Admiral.*

ACADEMIC STAFF.

Captain NAPOLEON B. HARRISON	<i>Commandant of Midshipmen, Head of Department of Seamanship, Gunnery, Naval and Infantry Tactics, &c.</i>
Commander JOSEPH S. SKERRETT.....	<i>Assistant to Commandant of Midshipmen, and Senior Instructor in Seamanship, Naval Tactics, Naval Construction, &c.</i>
Lieut. Com'r SILAS CASEY	
Lieut. Com'r JOHN F. McGLENSEY	<i>Assistants to Commandant of Midshipmen, and Assistant Instructors in Seamanship, Naval Tactics, Naval Construction, &c.</i>
Lieut. Com'r ERNEST J. DICHMAN.....	
Lieutenant THOMAS P. WILSON	
Ass't Naval Constructor THEO. D. WILSON	
Lieut. Com'r EDWARD TERRY	<i>Assistant to Commandant of Midshipmen, and Senior Instructor in Naval Gunnery, Infantry Tactics, and Howitzer Drill.</i>
Lieut. Com'r GEORGE W. HAYWARD ...	
Lieut. Com'r CHARLES S. COTTON.....	<i>Assistants to Commandant of Midshipmen and Assistant Instructors in Naval Gunnery, Infantry Tactics, and Howitzer Drill.</i>
Lieut. Com'r GEORGE W. COFFIN.....	
Lieut. Com'r GEORGE H. WADLEIGH ...	
Lieut. Com'r GEORGE DEWEY	<i>Assistant to Commandant of Midshipmen, in charge of Practice Ships and other vessels.</i>
Lieut. Com'r CHARLES L. FRANKLIN	<i>Assistant to Commandant of Midshipmen, and Senior Assistant in Executive Duty.</i>
Lieut. Com'r HENRY F. PICKING.....	
Lieut. Com'r SILAS W. TERRY	<i>Assistants to Commandant of Midshipmen, in Executive Duty.</i>
Lieut. Com'r WILLIAM B. HOFF	
Lieut. Com'r GEORGE D. B. GLIDDEN ...	

MATHEMATICS.

WILLIAM H. WILCOX, Professor.....	<i>Head of Department of Mathematics.</i>
ALLAN D. BROWN, Lieut. Com'r	
PURN'L F. HARRINGTON, Lieut. Com'r.	<i>Assistant Instructors in Mathematics.</i>
FRANCIS A. COOK, Lieut. Com'r	
JOHN M. RICE	<i>Assistant Professors of Mathematics.</i>
WILLIAM W. JOHNSON.....	
CHARLES F. JOHNSON.....	

STEAM ENGINERY.

HENRY L. SNYDER, 1st Ass't Eng'r	<i>Head of Department of Steam Enginerry.</i>
CHARLES E. DEVALIN, 1st Ass't Eng'r ..	
EDWARD B. LATCHE, 1st Ass't Eng'r	<i>Assistant Instructors in Steam Enginerry.</i>
GEORGE W. ROCHE, 2d Ass't Eng'r	
JOHN C. KAFER, 2d Ass't Eng'r	
ROBERT CRAWFORD, 2d Ass't Eng'r	

UNITED STATES NAVAL ACADEMY.

ASTRONOMY, ETC.

ROBERT L. PHYTHIAN, Lieut. Com'r	<i>Head of the Department of Astronomy, Navigation, and Surveying.</i>
JOHN A. HOWELL, Lieut. Com'r	<i>Assistant Instructors in Astronomy, Navigation, and Surveying.</i>
LEWIS CLARK, Lieut. Com'r	
CHARLES J. WHITE	<i>Assistant Professor of Astronomy, Navigation, and Surveying.</i>

NATURAL AND EXPERIMENTAL PHILOSOPHY.

WILLIAM T. SAMPSON, Lieut. Com'r	<i>Head of Department of Natural and Experimental Philosophy.</i>
RICHARD H. THURSTON, 1st Ass't Eng'r	<i>Assistant Instructors in Natural and Experimental Philosophy.</i>
JOHN PEMBERTON, 2d Ass't Eng'r	

ETHICS, ETC.

THOMAS L. SWANN, Lieut. Com'r	<i>Head of Department of Ethics and English Studies.</i>
ARTHUR H. WRIGHT, Lieut. Com'r	
EDWARD M. STEDMAN, Lieut. Com'r	
CHARLES H. BLACK, Lieutenant	
FRANCIS H. SHEPPARD, Master	
THOMAS KARNEY	<i>Professor of Ethics and English Studies.</i>
WILLIAM W. FAY	
JOSEPH E. DICKSON	
JOHN J. ARCHER	

FRENCH.

LEOPOLD V. DOVILLIERS, Professor	<i>Head of Department of French.</i>
ALPHONSE V. S. COURCELLE	
LUCIEN F. PRUD'HOMME	
EUGENE DOVILLIERS	
JULES LEROUX	
BERNARD MAURICE	

SPANISH.

EDWARD A. ROGET, Professor	<i>Head of Department of Spanish.</i>
CHARLES F. BLAKE, Lieut. Com'r	<i>Assistant Instructor in Spanish.</i>
PEDRO MONTALDO	
JAMES P. MARRON	

DRAWING.

AUGUSTUS P. COOKE, Lieut. Com'r	<i>Head of Department of Drawing.</i>
CHARLES D. SIGSBEE, Lieut. Com'r	<i>Assistant Instructor in Drawing.</i>
MARSHAL OLIVER	
ANDREW W. WARREN	

NATURAL HISTORY, ETC.

HENRY H. LOCKWOOD, Professor	<i>Head of Department of Natural History and Mineralogy.</i>
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ART OF DEFENSE.

ANTOINE J. CORBESIER	<i>Sword Master.</i>
THEODORE MAURICE	
ADOLPHE AUBRY	
MATHEW STROHM	

OFFICERS NOT ATTACHED TO THE ACADEMIC STAFF.

Commander JAMES A. GREER, U. S. N	<i>In charge of Grounds, &c.</i>
Captain McLANE TILTON, U. S. M. C	<i>Commanding Marine Guard.</i>
1st Lieut. WILLIAM S. MUSE, U. S. M. C	<i>Assistant to Commanding Officer.</i>
2d Lieut. SAMUEL K. ALLEN, U. S. M. C	<i>Assistant to Commanding Officer.</i>
EDWARD SHIPPEN	<i>Surgeon.</i>

GEORGE H. COOKE	<i>Passed Assistant Surgeon.</i>
LUTHER M. LYON	<i>Passed Assistant Surgeon.</i>
CALVIN C. JACKSON	<i>Paymaster.</i>
JAMES HOY, Jr.	<i>Paymaster. (Storekeeper.)</i>
DONALD McLAREN	<i>Chaplain.</i>
RICHARD SWANN	<i>Commissary.</i>
JAMES J. GRAFF	<i>Assistant Librarian.</i>
RICHARD M. CHASE	<i>Secretary of the Academy.</i>
DAVID E. PORTER	<i>First Clerk.</i>
OWEN D. ROBB	<i>Second Clerk.</i>
JAMES TILTON	<i>Third Clerk.</i>
JAMES HUTCHINSON	<i>Gunner.</i>
JOHN SOUTHWICK	<i>Carpenter.</i>

MIDSHIPMEN ON PROBATION AT THE NAVAL ACADEMY,

ARRANGED

IN ORDER OF MERIT IN THEIR RESPECTIVE CLASSES

AS DETERMINED AT THE

GENERAL EXAMINATION IN MAY, 1869.

TOGETHER WITH

THE MIDSHIPMEN ADMITTED IN JUNE AND SEPTEMBER, 1869, FORMING
THE FOURTH CLASS OF 1869-70.

N O T E S.

Midshipmen whose names are marked thus (*) are the five most distinguished in their respective classes.

Those marked thus (†) were found deficient, but were allowed to continue in their classes on condition of passing at a re-examination.

Those marked thus (‡) were found deficient, and turned back to recommence the studies of their respective classes.

Those marked thus (§) were found deficient, and recommended for discharge.

UNITED STATES NAVAL ACADEMY.

MIDSHIPMEN ON PROBATION AT THE NAVAL ACADEMY.

First Class—Graduating Class of 1869—78 Members.

NAME.	STATE.	DATE OF ADMISSION.	Age at date of admission.	Years.	Months.	Age at date of admission.	Years.	Months.	Days.	Sea service in private ships.
*1 Charles P. Perkins.....	Massachusetts.....	July 21, 1865	17	5	14	4	21	3	1	12
*2 Edwin H. Wiley.....	Illinois	July 28, 1865	17	10	2	2	20	24	9	8
*3 Henry M. M. Richards.....	Pennsylvania.....	July 21, 1865	16	11	47	60	1	19	5	8
*4 Sumner C. Paine.....	Maine	Sept. 22, 1865	16	11	47	60	1	2	2	10
*5 Benjamin H. Buckingham.....	Ohio	July 22, 1865	17	5	7	3	13	27	7	5
6 Louis E. Bixler.....	Pennsylvania.....	Sept. 27, 1865	16	8	23	30	18	5	7	10
7 William W. Kimball.....	Son of officer.....	July 21, 1865	17	7	4	30	16	3	14	1
8 Charles R. Brown.....	New Hampshire.....	Sept. 22, 1865	16	16	7	21	36	5	10	1
9 Giles B. Farber.....	Ohio	July 24, 1865	15	10	19	8	22	33	4	1
10 Clinton K. Curtis.....	West Virginia.....	Sept. 28, 1865	16	5	6	13	7	38	17	8
11 William P. Potter.....	New York.....	Sept. 27, 1865	15	4	17	9	17	39	27	12
12 Joseph B. Hobson.....	Iowa	July 28, 1865	15	2	10	5	11	8	43	4
13 John D. Briggs.....	Massachusetts	Sept. 30, 1865	16	6	16	18	33	17	8	10
14 Charles G. Bowman.....	Indiana	July 29, 1865	16	9	18	12	4	2	17	8
15 Edward A. Field.....	Connecticut	July 22, 1865	17	10	13	16	23	32	16	11
16 William H. Turner.....	Ohio	July 22, 1865	17	6	26	11	29	34	6	2
17 Alexander M. Thackara.....	Pennsylvania	July 21, 1865	16	10	29	38	14	34	26	17
18 John Gravin.....	Ohio	July 22, 1865	16	9	11	7	6	7	35	15
19 John C. Wilson.....	New York	July 24, 1865	16	0	28	44	25	13	46	30
20 Fletcher S. Bassett.....	Illinois	July 17, 1865	17	9	21	24	18	11	27	72
21 Henry O. Handy.....	Massachusetts	July 25, 1865	17	4	1	1	9	14	69	55
22 Newton E. Mason.....	Pennsylvania	July 24, 1865	14	9	24	13	32	16	37	12
23 Arthur P. Osborn.....	Ohio	July 17, 1865	17	11	9	6	20	6	23	33
24 Uriah R. Harris.....	Indiana	July 22, 1865	15	10	39	40	10	17	21	22
25 Herbert Winslow.....	Pennsylvania	July 21, 1865	16	10	44	28	61	24	56	23
26 Edward J. Berwind.....	Illinois	July 17, 1865	17	1	64	74	7	20	29	49
27 Kosuth Niles.....	Sept. 23, 1865	16	3	40	17	43	30	10	34	38
28 Frank C. Birney.....	Son of officer.....	July 22, 1865	15	8	31	15	28	37	31	46
29 Elliott J. Arthur.....	Vermont	Sept. 27, 1865	16	5	55	19	24	9	23	16
30 Nathaniel J. K. Patch.....	Massachusetts	Sept. 21, 1865	17	4	58	37	31	45	30	37
31 Karl Bohm.....	Kansas	July 22, 1865	17	4	66	39	31	44	33	29
32 William E. B. Delahay.....	July 22, 1865	17	4	43	34	34	34	8	21	1

10	James Franklin	Sept. 26, 1865	Maryland	16	8
124	John A. Norris	Sept. 28, 1865	Pennsylvania	16	8
124	John Milligan	July 21, 1863	Ohio	10	10
35	Richard G. Devonport	Sept. 29, 1864	Georgia	12	11
36	William P. Day	July 23, 1864	Naval apprentice	10	5
37	Charles W. Kischonberger	July 23, 1864	Son of officer	10	5
38	Arkansas	Oct. 1, 1864	Arkansas	42	40
39	New York	July 20, 1865	New York	40	39
40	William F. Bullock	July 27, 1865	Vermont	56	55
41	Charles A. Bradbury	Sept. 28, 1864	Son of officer	56	55
42	George P. Colvocoresses	July 21, 1864	Iowa	56	55
43	Charles A. Clarke	July 21, 1864	Mississippi	56	55
44	John A. H. Nickels	July 28, 1864	Massachusetts	56	55
45	Arthur P. Nazio	July 22, 1865	Son of officer	56	55
46	Dennis Mahan	July 21, 1865	Illinois	56	55
47	George F. Wright	July 22, 1865	Son of officer	56	55
48	Edward B. Barry	July 21, 1865	Michigan	56	55
49	William H. Briggs	July 21, 1865	Michigan	56	55
50	Frederick B. Hull	Sept. 30, 1865	New York	56	55
51	John H. Moore	July 21, 1865	New Jersey	56	55
52	Samuel P. Conly	July 26, 1865	New York	56	55
53	Daniel D. V. Smart	Sept. 23, 1863	New York	56	55
54	John T. Houston	July 28, 1865	Massachusetts	56	55
55	Horace A. Blanchard	July 26, 1865	Massachusetts	56	55
56	Richard A. Brock	Sept. 30, 1865	Pennsylvania	56	55
57	William C. Negley	July 26, 1865	Pennsylvania	56	55
58	Edward O. Macfarlane	Oct. 3, 1864	Pennsylvania	56	55
59	Wainwright Kellogg	Sept. 24, 1865	Pennsylvania	56	55
60	Henry H. Taunt	July 22, 1865	Son of officer	56	55
61	John H. C. Coffin	July 26, 1864	Maryland	56	55
62	John P. Wallis	July 30, 1864	Pennsylvania	56	55
63	Henry C. Longnecker	July 26, 1865	Naval apprentice	56	55
64	Henry T. Monahan	July 26, 1865	Son of officer	56	55
65	Thomas S. Phelps	July 26, 1865	Pennsylvania	56	55
66	Charles E. Colahan	July 28, 1864	Pennsylvania	56	55
67	William A. Hadjin	July 24, 1865	Indiana	56	55
68	James W. Graydon	July 22, 1865	Pennsylvania	56	55
69	Henry L. Stockton	July 22, 1865	At large	56	55
70	Albert G. Berry	July 28, 1864	Oregon	56	55
71	Charles Seymour	July 24, 1865	New Hampshire	56	55
72	William F. Low	July 28, 1864	New Hampshire	56	55
73	Sidney H. May	July 22, 1864	Massachusetts	56	55
74	Richard Mitchell	Sept. 19, 1865	Iowa	56	55
75	Martin E. Hall	Sept. 23, 1865	Naval apprentice	56	55
76	Alfred B. Fowler	July 31, 1865	Dakota Territory	56	55
77	William S. King	Sept. 29, 1865	Nebraska Territory	56	55
78	George A. Zabriskie			56	55

Second Class—70 Members—1869

NAME.	DATE OF ADMISSION.	AGE at date of admission.	YEARS.	MONTHS.	ORDER OF MERIT IN—		
					Seamanship.	Gunnerry, &c.	Mechanics.
*1 George L. Dyer.....	July 26, 1866	16	10	3	6	9	15
*2 Hawley O. Rittenhouse.....	July 27, 1866	15	11	4	10	7	24
*3 Winfield S. Baker.....	July 30, 1866	17	5	32	4	8	34
*4 Henry W. Schaefer.....	July 23, 1866	16	5	10	3	4	10
*5 Robert G. Peck.....	Sept. 24, 1866	17	2	19	1	10	23
6 Charles Briggs.....	July 30, 1866	17	2	16	8	5	29
7 Herman F. Fickbohm.....	July 31, 1866	17	4	21	3	4	28
8 John Hubbard.....	July 26, 1866	17	6	21	2	11	6
9 Alexander McCrackin.....	July 27, 1866	16	0	14	22	23	9
10 William G. Mayer.....	July 23, 1866	15	11	23	6	3	60
11 Henry Harris.....	Aug. 1, 1866	16	7	35	2	15	16
12 John W. Dancenhower.....	Sept. 25, 1866	16	11	29	13	17	34
13 Lewis C. Heilner.....	July 25, 1866	17	5	18	17	30	3
14 Samuel L. Graham.....	July 27, 1866	17	10	24	18	23	62
15 Joel A. Post.....	July 23, 1866	15	6	12	25	31	10
16 Joseph B. Murdock.....	July 26, 1866	15	7	26	9	26	70
17 John D. Keeler.....	July 23, 1866	16	5	7	9	13	48
18 Lazarus L. Reamey.....	July 25, 1866	17	5	20	12	1	41
19 George A. Calhoun.....	July 31, 1866	17	0	13	27	30	12
20 Walter S. Holliday.....	July 27, 1866	17	2	5	18	19	37
21 Charles P. Kunhardt.....	July 27, 1866	16	6	21	56	57	18
22 Harry M. Jacoby.....	July 27, 1866	15	11	33	49	52	1
23 Corwin P. Rees.....	July 31, 1866	17	10	46	35	15	34
24 Jacob J. Hunker.....	July 30, 1866	16	6	27	33	29	20
25 Nathan Sargent.....	July 23, 1866	16	8	14	17	2	60
26 Whitmull P. Ray.....	Sept. 27, 1866	17	9	53	18	26	19
27 Landon P. Jonett.....	July 21, 1866	16	2	22	38	44	21
28 Greenleaf A. Merriam.....	July 24, 1866	16	8	44	29	59	21

Order of general merit.

Sea service in practice ships.

Days.	Months.	Years.
8	1	8
58	17	7
44	9	7
18	3	2
6	2	1
10	9	1

Sea service in practice ships.

Third Class—55 Members—1869.

NAME.	STATE.	DATE OF ADMISSION.	Years.	Age at date of admission.	Months.	Chemistry.	Physics, &c.	Mathematics.	History and composition.	Drawing.	French.	Rhetoric.	Spaeths.	Conduct.	Sea service in practice ships.	Days.	Months.	
ORDER OF MERIT IN—																		
*1 Sidney A. Stanton.....	West Virginia.....	Sept. 20, 1867.....	17	0	2	1	1	1	1	5	18	28	4	6	3			
*2 Charles Terrell.....	Kentucky.....	Sept. 25, 1867.....	16	0	3	4	33	2	3	5	6	16	1	6	3			
*3 Aaron Ward.....	Pennsylvania.....	Sept. 26, 1867.....	15	11	6	2	10	3	2	2	1	27	46	11	6	3		
*4 Chancery Thomas.....	Pennsylvania.....	Sept. 25, 1867.....	17	4	4	3	10	5	14	15	9	28	5	24	3			
*5 Charles W. Bartlett.....	Massachusetts.....	June 20, 1867.....	16	10	14	6	3	12	12	9	37	9	42	8	6	3		
6 William M. Irwin.....	Ohio.....	June 28, 1867.....	17	7	23	13	9	6	7	1	2	18	11	26	54	16	6	3
7 Perrin Busbee.....	At large.....	Sept. 30, 1867.....	17	7	9	10	25	18	17	6	4	16	17	39	94	25	6	3
8 Frank W. Nabor.....	Ohio.....	Sept. 30, 1867.....	17	7	26	22	14	8	8	22	18	30	27	11	28	4	6	3
9 Benjamin C. Tillinghast.....	Naval apprentice.....	July 31, 1866.....	16	5	5	8	16	18	16	12	11	19	22	10	134	37	9	10
10 Carlos G. Calkins.....	Ohio.....	June 20, 1867.....	20	3	3	13	7	42	9	9	9	16	49	11	62	17	6	3
11 William P. Clason.....	Rhode Island.....	July 21, 1866.....	16	9	22	15	7	27	28	7	24	2	20	3	110	30	9	10
12 Henry H. Carroll.....	Missouri.....	Sept. 27, 1867.....	17	4	31	35	33	13	5	13	9	33	22	15	94	25	6	3
13 Albert A. Crandall.....	Minnesota.....	June 29, 1867.....	17	3	15	13	22	25	11	4	7	17	8	40	112	33	6	3
14 Albert J. Daubney.....	Kentucky.....	Sept. 30, 1867.....	17	7	10	3	48	22	6	11	8	39	21	50	42	8	6	3
15 Julius C. Froehman.....	Illinois.....	Oct. 4, 1866.....	17	3	25	23	5	19	24	41	16	43	34	7	88	22	9	10
16 Gustavus C. Hamns.....	Wisconsin.....	July 26, 1865.....	17	3	36	32	40	17	15	26	32	13	7	16	48	13	12	4
17 Walter S. French.....	Maine.....	July 27, 1866.....	14	7	38	37	40	11	39	19	22	4	4	20	112	33	9	10
18 James C. Cresap.....	Ohio.....	June 22, 1867.....	17	6	46	44	3	4	12	42	20	36	17	13	168	46	6	3
19 William H. E. Massier.....	Pennsylvania.....	Oct. 1, 1866.....	17	4	11	16	54	10	24	49	51	46	46	1	190	44	9	10
20 John E. Roller.....	Naval apprentice.....	June 20, 1867.....	15	8	12	11	44	43	18	16	17	25	11	19	74	20	6	3
21 Joseph H. Fraunies.....	Pennsylvania.....	July 26, 1866.....	16	9	17	16	39	15	39	51	20	36	13	5	17	204	3	10
22 Joseph L. Hunsecker.....	Pennsylvania.....	July 24, 1867.....	16	3	8	28	12	51	15	20	20	36	15	10	44	152	43	6
23 Ben. B. Scott.....	Iowa.....	June 28, 1867.....	15	10	34	20	25	14	29	14	29	14	23	14	51	126	36	6
24 William P. Elliott.....	At large.....	Sept. 25, 1867.....	16	0	24	36	21	4	91	14	13	42	13	14	13	48	6	3
25 Horace P. McIntosh.....	Indiana.....	June 27, 1867.....	15	5	7	42	24	28	43	21	19	17	33	120	35	6	3	
26 Thomas C. Wood.....	New York.....	July 30, 1866.....	16	2	16	37	10	25	28	38	12	92	24	9	10			
27 Frederick H. Lefavor.....	Ohio.....	July 27, 1866.....	17	7	29	24	17	34	38	34	36	52	8	43	11	9	10	
28 John Downes f.....	At large.....	June 20, 1867.....	15	4	19	12	13	33	55d	37	29	19	32	32	44	10	6	3

Downes L. Wilson	At large	129
Edward F. Qualtrough	New York	130
George L. Seiden	Connecticut	131
Henry McGrea	Indiana	132
Francis E. Greene	Indiana	133
Thomas S. Plunket	At large	134
Robert D. Stevens	New York	135
Alphonzo H. Cobb	Michigan	136
James M. Wight	Michigan	137
Frank Gnechtin	Wisconsin	138
Christopher Bruns	New York	139
Charles A. Foster	Minnesota	140
Frank B. Venzie	Massachusetts	141
William A. Marshall	Pennsylvania	142
Charles D. Galloway	Maryland	143
William E. Sewell	New York	144
William H. Slack†	At large	145
Asher C. Baker	Iowa	146
George A. Sanderson	Ohio	147
David Whipple	Son of officer	148
William C. Babcock†	Kansas	149
John T. Edson	At large	150
Frank S. Hofschkin	New York	151
Jeremiah C. Bennett†	Indiana	152
George A. Vail†	New York	153
William T. B. O'Reilly	At large	154
Gaspar C. Barnotte	Michigan	155

UNITED STATES NAVAL ACADEMY.

Fourth Class—50 Members—1869.

ORDER OF MERIT IN—

NAME.	STATE.	DATE OF ADMISSION.	Order of general merit.			Age at date of admission.	Years.	Months.	Days.	Sea service in practice ships.
			Number of demerits.	Drawings.	Geography.					
*1 Arthur C. Smith.....	New York.....	June 27, 1868	17	5	5	1	15	1	15	13
*2 Albert T. Freeman.....	New Jersey.....	Sept. 24, 1868	1	4	2	2	28	3	28	13
*3 William H. H. Sutherland.....	Naval apprentice.....	June 22, 1868	15	7	1	9	26	44	3	28
*4 Jesse M. Roper	Missouri.....	June 23, 1868	16	7	1	9	46	8	2	13
*5 Charles A. Thompson	Louisiana.....	Sept. 29, 1868	17	11	31	8	5	2	8	28
6 George T. Winston	At large.....	June 23, 1868	16	9	19	15	1	6	2	28
7 Jacob Medary	North Carolina	Sept. 30, 1868	15	11	35	1	1	20	2	28
8 Joel A. Barber	At large.....	June 25, 1868	15	7	9	13	11	10	23	10
9 Robert H. Fletcher	Wisconsin.....	June 24, 1868	17	4	24	3	4	34	6	28
10 Milton K. Schwenk	At large.....	June 24, 1868	16	11	12	12	24	9	14	10
11 Frank H. Powers	Colorado Territory.....	Sept. 22, 1868	16	4	10	9	22	8	28	12
12 Robert S. Graham	Naval apprentice	June 22, 1868	17	10	2	10	20	16	22	12
13 Samuel Seabury, (R)	New Jersey.....	Sept. 20, 1867	14	11	29	28	12	3	28	12
14 Howard S. Waring	Naval apprentice	June 20, 1867	17	6	13	30	19	24	6	28
15 Germaine R. Vandervoort	Naval apprentice	June 20, 1867	17	5	5	23	9	20	11	43
16 Robert H. McLean.....	Naval apprentice	Sept. 25, 1867	17	3	23	16	17	28	11	14
17 Charles R. Miles.....	Utah Territory.....	June 22, 1868	17	4	18	13	24	1	30	24
18 Frederick Tyler	Michigan.....	June 27, 1868	16	8	20	17	20	18	9	28
19 Oswin W. Lowry	Ohio.....	June 20, 1868	16	1	15	24	15	5	15	39
20 William H. Garrett	Tennessee	June 23, 1868	16	4	16	27	25	15	15	45
21 Benjamin F. Rinckhart	Pennsylvania.....	Sept. 24, 1868	17	3	42	11	25	40	27	8
22 Daniel F. Baker	At large.....	Sept. 23, 1868	17	8	42	7	29	33	26	31
23 Rogers H. Galt	At large.....	June 29, 1868	14	6	18	25	13	19	38	27
24 Albert Moritz	Wisconsin.....	June 26, 1867	16	10	22	19	16	23	35	29
25 John G. Dietrich	Illinois.....	Sept. 22, 1868	17	3	1	36	10	43	17	106
26 Frank E. Sawyer	Massachusetts.....	Sept. 20, 1867	16	6	24	32	39	4	17	153
27		Sept. 20,	9	31	21	35	31	21	31	2

28	John C. Fremont, Jr.	At large.....	June 24, 1868	2	14	29	26	28	20	164	34
29	Alfred V. Dooley....	North Carolina.....	Sept. 23, 1868	6	37	34	37	12	17	24	87
30	William C. Heacock	New York.....	Sept. 22, 1868	6	36	36	36	16	25	45	110
31	Clinton H. Lyell	West Virginia.....	June 23, 1868	17	28	30	43	32	35	23	130
32	At large.....	New York.....	June 20, 1868	17	6	39	37	27	22	16	26
33	William Polmyer	New York.....	Sept. 26, 1868	14	11	33	14	27	38	40	49
34	Oren P. Lashier	Kentucky.....	Sept. 21, 1868	16	5	26	22	44	37	44	28
35	James H. Winlock ^t	At large.....	June 27, 1868	15	11	8	35	35	29	30	36
A	Nathaniel T. James	New York.....	Sept. 29, 1868	17	6	47	33	38	42	23	16
36	George W. Hey	New York.....	Sept. 21, 1868	16	7	48	20	33	41	42	34
37	Vincenton L. Coffman	Indiana.....	June 24, 1868	16	2	30	42	29	30	41	25
38	Charles H. Crosswait	Tennessee.....	Sept. 25, 1868	14	2	45	41	18	39	39	42
39	Charles T. Mitchell	New Mexico Territory.....	Sept. 26, 1868	14	1	49	def. def.	49	40	49	40
40	William M. Slough	Arkansas.....	Sept. 26, 1868	14	9	50	def. def.	48	48	48	49
41	John Y. Oliver	At large.....	Sept. 21, 1868	16	3	46	def.	34	19	219	37
42	Thomas R. Dixon	Naval apprentice	June 22, 1868	17	8	3	def.	23	14	19	33
43	Delmar R. Keeler	At large.....	June 22, 1868	15	6	33	def.	48	48	48	48
44	William L. Pitcher	New York.....	Sept. 24, 1868	14	0	40	def.	41	36	37	44
45	Ten Eyck De Witt Vreder	Maryland.....	Sept. 22, 1868	14	5	44	def.	45	45	45	50
46	Alexander Kirkland	Naval apprentice	June 20, 1867	17	11	41	def.	46	46	33	35
47	Walter T. Livingston	Maine.....	Sept. 22, 1868	14	5	37	def.	42	31	18	158
48	James S. Manley	Naval apprentice	June 22, 1868	17	8	17	def.	39	43	def.	32
49	Jacob K. Nagle	Naval apprentice	June 22, 1868	16	10	27	def.	46	47	def.	41
50	Lemuel Van Epps										

(R) Re-examined in the studies of the Third Class, and restored to it.

SUMMARY.

Academic Year 1868 and 1869 concluded June 4, 1869.

First, or Graduating Class	78 members.
Second Class	70 members.
Third Class	55 members.
Fourth Class	50 members.
Total.....	253

Alphabetical list of Midshipmen, eighty-seven (87) in number, admitted in June and September, forming the fourth class of 1869-'70.

Name.	State.	Date of admission.	Age at date of admission.	
			Years.	Months
John E. Anderson	Ohio	Sept. 22, 1869	17	5
George S. Arnold	South Carolina	June 29, 1869	17	9
Clinton J. Axson	Louisiana	June 24, 1869	16	4
Charles J. Badger	At large	June 22, 1869	15	10
Edward L. Baker	Iowa	Sept. 20, 1869	15	0
John W. Bean	North Carolina	June 23, 1869	16	0
James W. Blakely	Nevada	June 28, 1869	15	0
Charles J. Brenner	Missouri	Sept. 21, 1869	16	0
Richard W. Burns	Kentucky	June 22, 1869	16	2
Humberston S. Cannell	Georgia	Sept. 23, 1869	17	1
Augustus L. Case	At large	June 23, 1869	15	5
William N. Conet	Illinois	June 28, 1869	17	5
William H. Craig	Missouri	June 29, 1869	17	9
Walter C. Cowles	Connecticut	Sept. 21, 1869	16	2
Eben B. Crocker	Massachusetts	Sept. 22, 1869	15	4
Isaac B. Culp	Ohio	Sept. 22, 1869	16	5
Francis W. Danner	Alabama	June 23, 1869	17	7
Lewis J. Davids	New York	Sept. 22, 1869	15	0
Charles W. Deering	Maine	June 21, 1869	16	10
Jenness K. Dexter	At large	June 22, 1869	16	10
Samuel W. D. Diehl	Pennsylvania	Sept. 20, 1869	18	0
Isaac B. Elliot	South Carolina	Sept. 21, 1869	17	7
Harrison C. Fales	New York	June 29, 1869	15	7
John Farnsworth	Illinois	Sept. 25, 1869	14	0
Frank A. Fenn	Idaho Territory	June 22, 1869	15	9
Irving R. Fisher	Illinois	Sept. 23, 1869	16	10
Clarence E. Fifthian	Ohio	Sept. 22, 1869	17	1
Gilbert Fowler	Massachusetts	June 23, 1869	15	1
Charles V. Grant	Tennessee	Sept. 23, 1869	14	11
Horatio W. Greenough	New York	June 24, 1869	15	9
William Gundlach	Illinois	Sept. 28, 1869	16	11
Richard Habershaw	Georgia	Sept. 23, 1869	14	0
William F. Halsey	Louisiana	Sept. 21, 1869	16	5
Edwin F. Hard	New York	Sept. 22, 1869	16	4
Charles F. Holder	At large	June 23, 1869	16	10
Thomas B. Howard	At large	June 24, 1869	14	10
George W. Hyde	Maryland	Sept. 21, 1869	16	4
Jones M. Jackson	At large	Sept. 27, 1869	16	1
Frank T. Jenkins	At large	June 21, 1869	16	7
John P. Johnson	Georgia	June 21, 1869	16	1
James S. Jouett	At large	June 21, 1869	15	8
Austin M. Knight	Florida	June 30, 1869	14	6
Charles Laird	Ohio	Sept. 24, 1869	14	7
Samuel C. Lemly	North Carolina	June 26, 1869	16	3
James S. Manley	Maine	June 24, 1869	15	2
Charles M. McCartney	Pennsylvania	Sept. 23, 1869	15	1
William McKeloy	Pennsylvania	Sept. 24, 1869	16	10
Albert A. Michelson	At large	June 28, 1869	16	6
Frank J. Milligan	Tennessee	June 29, 1869	16	6
Charles B. T. Moore	Illinois	Sept. 27, 1869	16	1
Henry Morrell	New York	June 29, 1869	15	10
Thomas E. Muse	Maryland	Sept. 30, 1869	17	0
James S. Negley	Pennsylvania	Sept. 28, 1869	15	6
John B. Nichols	New York	Sept. 28, 1869	14	4
John O. Nicholson	Alabama	June 29, 1869	16	4
Reginald F. Nicholson	North Carolina	Sept. 30, 1869	16	9
George D. North	Tennessee	June 23, 1869	15	9
William A. Northcott	West Virginia	Sept. 24, 1869	15	7
David Peacock	New Jersey	Sept. 28, 1869	15	4
Herbert C. Pell	New York	June 28, 1869	16	5
Frank Pierson	New York	Sept. 22, 1869	16	6
Charles F. Putnam	Illinois	June 22, 1869	14	6
Eugene Raines	New York	June 23, 1869	17	2
Edmund G. Ray	Pennsylvania	Sept. 22, 1869	15	9
Alfred Reynolds	Indiana	Sept. 21, 1869	16	0
John F. Robb	Illinois	Sept. 22, 1869	16	5
John M. Robinson	At large	June 23, 1869	17	7
Hermann J. Rodman	Missouri	June 21, 1869	15	9
William H. Schuetze	Missouri	June 21, 1869	15	11
William F. Shaw	New Hampshire	Sept. 22, 1869	16	11
Mason A. Shufeldt	Connecticut	June 23, 1869	16	7
Irving Smith	Arkansas	June 24, 1869	17	9
Realdo D. Strong	Ohio	June 26, 1869	16	2
William A. Talbott	Pennsylvania	Sept. 28, 1869	17	7
William V. B. Topping	Ohio	June 23, 1869	16	11
John W. Turnbull	At large	Oct. 5, 1869	17	4

Alphabetical list of Midshipmen, &c.—Continued.

Name.	State.	Date of admission.	Age at date of admission.	
			Years.	Months.
Edmund B. Underwood	At large	June 24, 1869	16	3
James P. Underwood	Michigan	June 28, 1869	17	7
Custis P. Upshur	South Carolina	Sept. 23, 1869	17	1
Edward Vail	Indiana	Sept. 21, 1869	15	10
Frederick C. C. Van Vliet	At large	June 21, 1869	15	6
Charles A. Wallingford	Indiana	Sept. 23, 1869	15	7
George B. Way	Maryland	Sept. 28, 1869	14	10
Frank A. White	Maine	Sept. 22, 1869	17	5
Frank A. Wilner	New York	June 29, 1869	17	10
William Winder	New Hampshire	Sept. 16, 1869	18	0
Lucien Young	Kentucky	June 21, 1869	17	2

SUMMARY.

Academic Year 1869-'70 begun October 1, 1869.

First Class	67 members.
Second Class	56 members.
Third Class	38 members.
Fourth Class, (appointments of 1869, and transfers from 1868).	92 members.
Total	253

C A L E N D A R — 1 8 6 9 - ' 7 0 .

1896.

June 21.—Examination of candidates for admission began.....	Monday.
June 30.—Examination of candidates concluded.....	Wednesday.
July 4.—Holiday.....	Sunday.
July 5.—The fourth observed; duties suspended.....	Monday.
Sept. 20.—Examination of candidates for admission began.....	Monday.
Sept. 30.—Examination of candidates concluded.....	Thursday.
Oct. 1.—Winter term began.....	Friday.
Nov. 18.—Thanksgiving; studies and exercises suspended.....	Thursday.
Dec. 25.—Christmas; studies and exercises suspended.....	Saturday.
1870.	
Jan. 1.—New Year; studies and exercises suspended.....	Saturday.
Jan. 15.—Semi-annual examination begins.....	Saturday.
Feb. 15.—Semi-annual examination and winter term ends.....	Tuesday.
Feb. 16.—Summer term begins.....	Wednesday.
Feb. 22.—Studies and exercises suspended.....	Tuesday.
May 20.—Annual examination begins.....	Friday.
June 10.—Annual examination and summer term ends.....	Friday.

P R A C T I C E C R U I S E — 1 8 7 0 .

1870-'71.

June 20.—Examination of candidates for admission begins.....	Monday.
June 30.—Examination of candidates for admission ends.....	Thursday.
Sept. 20.—Examination of candidates for admission begins.....	Tuesday.
Sept. 30.—Examination of candidates for admission ends.....	Friday.
Oct. 1.—Winter term begins.....	Saturday.

COURSE OF INSTRUCTION.

The studies which shall be pursued and the instruction which shall be given at the Naval Academy are comprised under the following departments and branches :

FIRST DEPARTMENT—PRACTICAL SEAMANSHIP, NAVAL GUNNERY, AND NAVAL AND INFANTRY TACTICS.

First branch—Practical seamanship.—Mode of constructing, docking, and undocking vessels, and of heaving them down for examination and repair; preparations for, and stowage of, ballast, water, provisions, ammunition, sails, and other stores; getting on board and fitting in place masts, yards, rigging, sails, armament, boats, and all other articles of equipment, and arrangements for removing the same when a ship is to be dismantled; berthing the crew, and stationing the ship's company for various duties in working ship; unmooring ship; getting under way; anchoring and mooring; mode of using springs in the different cases to which they may be advantageously applied; keeping a ship from fouling her anchor; clearing hawse; practical use of the lead and of the helm; steering, tacking, wearing; making and shortening sail in different kinds of weather, and in different situations; backing and filling in a tideway; warping; heaving to and preserving relative position with other vessels when lying-to; chasing to windward and to leeward; closing with other vessels soonest, or avoiding them for the greatest length of time; towing one or more vessels, under all circumstances of weather, when towing is practicable; management of vessels and boats to save men who have fallen overboard, or to rescue persons from vessels at sea, when the sea is rough and dangerous; boarding vessels at sea; examination of ship's papers; landing in a heavy surf; watering and provisioning from an open beach; management of a vessel on her beam ends; also, when one or more masts are lost in a gale or in action; and when rudder is lost, or in danger from leaks in a gale at sea, or in imminent danger of soon foundering, or on fire at sea or in port; rules for avoiding collisions; rules of the road, and lights to be carried by vessels, as established by act of Congress.

Second branch—Theory and practice of gunnery—Practical naval gunnery.—The nomenclature of different parts of ships' guns, and of the different carriages which are used in the navy; and also the several uses, and the names of all articles belonging to or used with guns and carriages in action; component parts of gunpowder and mode of manufacture, and different means by which its strength and other qualities are or may be ascertained; mode of inspecting and proving guns, shot, and shells, for their reception from the makers; windage; manner of loading, fusing, and boxing shells, and of unloading them; testing quality and regulating length of fuses; arrangement of ship's magazines, shell, and shot rooms; dimensions of cartridge-bags, and mode of making them; weight of charges of powder for different calibers and distances; manner of fitting and using locks and tangent and dispart sights; necessity for guarding powder, shells, fuses, and all articles of which gunpowder forms a part, from moisture as well as from fire; preparation of a ship for action; stations and duties of men at guns of different calibers, in the different divisions, when preparing for quarters or action; exercise of the guns, and all the duties of those stationed at them in action; modes of

ascertaining distances from vessels and other objects at sea; advantages of direct and of ricochet firing under different circumstances; ranges of different projectiles from different calibers and classes of guns; different modes of taking guns on board and sending them from vessels; of mounting and dismounting and transporting them; shifting carriages, breechings, and trucks; securing guns in heavy gales; managing and securing a gun that has got loose from breeching and tackles; means of gaining greater safe elevation and depression than carriages ordinarily afford; injurious effects of double shotting upon the recoil and safety of the gun, and upon the projectiles, as to the accuracy of their direction, and the extent of their range for penetration; arrangements for boarding and repelling boarders; different calls and signals used in action.

Furthermore, the use of boat and field guns; their nomenclature, weight, calibers, character, and construction, including the carriages with which they are used for boat and shore service; preparation of boats for their use; exercise when used in boats and when on shore; embarking them in boats from vessels; equipment for service against merchantmen, boats, or for shore service; mode of landing and embarking from the shore; construction and preparation, for immediate use, of the shrapnel and other shells, and of grape, and the regulation of the length of fuses; adaptation of the different kinds of projectile for service, according to distance, cover, and the character of the objects of attack; returning armament and equipments to the vessel, and disposition to be made of them on so doing.

Theory of gunnery.—Review of laws of motion, of projectiles in vacuo and in the atmosphere; initial, remaining, and final velocities, and the methods of determining their values; the effects on them by variations of charge, windage, and weight of projectiles; forces of deviation, arising from the motion of rotation and eccentricity of projectiles, from inclination of the axis of the trunnions, and from other causes; examination of the several systems or modes of pointing; tangent sights, and determination of their values; penetration and shock of projectiles, when used against wood, earth, or stone, and with direct and ricochet fire; recoil, and how affected by preponderance and position of trunnions in relation to axis of the gun.

Third branch—Naval tactics.—The different orders of steaming and sailing fleets, divisions, and squadrons, to be observed for battle and for other purposes; modes of forming such orders; of changing from one order to another; of reforming orders when disturbed by changes of wind; of interchanging and changing the position of different squadrons or divisions forming parts of a fleet; advantages of the different prescribed orders for general or special service; the leading objects to be kept in view in the arrangement of vessels of different strength or force for lines of battle, and in determining upon the manner of making or receiving an attack at sea and at anchor; examination of the best accounts of fleet actions; consideration of the advantages or defects of the plans of attack and defense, and of the execution of the details by the commanders of fleets, divisions, squadrons, and vessels; mode of communication by signals, embracing the naval code, the army code, and the commercial code.

Fourth branch—Infantry tactics.—Organization and formation of squad, company, and battalion; facing and wheeling; marching in line and by flank, and filing; manual of small arms; firing; charging; forming column in mass at half and at full distance, and reforming into line; extension and closing of column; column of route; reducing and increasing front; passage of defiles; advancing and retreating by flank, center, and in line; passage of obstacles; changes of front; forming and reducing square; exercise as skirmishers.

Fifth branch—Naval artillery.—School of the piece and school of the battery.

Sixth branch—The art of defense.—Fencing, small and broad sword; boxing and swimming.

Seventh branch—Naval construction.—Elements of naval architecture.

SECOND DEPARTMENT—MATHEMATICS.

First branch—A review of arithmetic.—The principles and practice of operations in whole numbers and in vulgar and decimal fractions; proportions; computation of percentage and interest; involution and evolution of numbers.

Algebra.—Fundamental operations; reduction and solution of equations of the first and second degrees; reduction and transformation of fractional and surd quantities; proportions and progressions; summation of series; nature and construction of logarithms.

Second branch—Geometry.—Plane and solid.

Third branch—Trigonometry.—Analytical investigation of trigonometrical formulas, and their application to the solution of all the cases in plane and spherical trigonometry; the construction and use of trigonometrical tables.

Fourth branch—Application of algebra and trigonometry to the mensuration of planes and solids.

Fifth branch—Descriptive geometry.—(The graphic illustration and solution of problems in solid geometry, and the application of this method, particularly to) the projections of the sphere.

Sixth branch—Analytical geometry.—Construction of algebraic expressions; solution of determinate problems; equations of the right line, plane and conic sections; [discussion of the general equations of the second degree, involving two or three variables; determination of loci; principal problems relating to the cylinder, cone, sphere, and spheroids.]

Seventh branch—[Differential and integral calculus.—Its principles and its application to maxima and minima, and the simpler problems relating to curves.]

THIRD DEPARTMENT—STEAM ENGINERY.

First branch—Mechanical drawing.—Application of right-line drawing and descriptive geometry to the making of drawings of marine steam machinery after construction.

Second branch—Heat.—Application of heat to steam, and the operation and conservation of marine engines and boilers.

Third branch—Steam.—Physical properties of water; method of generating steam; boiling points of fresh and sea water; measure of steam by atmospheres and mercurial column; steam distinguished from other elastic fluids; pressure, density, and temperature of steam; superheated steam; forms of instruments used to determine temperature and pressure of steam.

Fourth branch—Marine boilers.—General description of marine boilers—their peculiarities; details of construction; advantages and disadvantages of each type; methods of operating; appurtenances and instruments used in connection with marine boilers to determine their efficiency; means used for their proper care and preservation; economy of fuel and prevention of smoke.

Fifth branch—Marine engines.—General description of marine steam engines now in use—condensing and non-condensing; elementary parts of the steam engine; engines used for marine propulsion in the navy—advantages and disadvantages of each; detail parts of a marine engine—their use and conservation; different types of paddle-wheels and screw propellers; comparative efficiency of each for naval purposes; method of hoisting and coupling the screw and paddle-wheel—radial and feathering; duties to steam machinery when at sea and in port; repairing damages during and after an action; precautions against fire and spontaneous combustion, bad weather, and probability of an engagement; routine duties of the fire and engine rooms when under steam; coal bunkers and coaling ship; hints regarding selection of coal on foreign stations.

Sixth branch—Practical exercises.—Practical exercises; operating marine engines and boilers under steam; use of indicator and interpretation of its diagrams; practical

observation of the methods of adjustment, and means used to insure the safety and preservation of marine machinery.

Seventh branch—Chemistry.—The practical application of chemistry to the combustion of fuel; corrosion of the metals; analysis of different kinds of fuel, sea water, boiler scale, lubricating matter, and illuminating oils.

This branch will be taught by lectures and experiment when marine boilers and engines are under discussion.

FOURTH DEPARTMENT—ASTRONOMY, NAVIGATION, AND SURVEYING.

First branch—Astronomy.—Descriptive and physical astronomy; description of the solar system; figure and magnitude of the earth, its motions and consequent changes of seasons; length of day and night; trade and periodical winds; nature and effects of parallax, refraction, dip of the horizon, precession, nutation, and aberration; theory of gravitation; Kepler's laws; explanation of the apparent motions of the sun, moon, planets, and comets, and the principles upon which the determination of their orbits depends; the moon's motions and phases; general theory of the tides; theory of eclipses; general description of the stars, and their distribution in space; measures of time; equation of time.

Second branch—Practical astronomy.—Including the use of astronomical instruments in determining the positions of celestial objects, and terrestrial latitudes and longitudes; optical principles involved in the construction of astronomical instruments, and in the theory of astronomical refraction. [Calculation of eclipses and occultations.]

Third branch—Navigation.—Sailing by compass; sailing on a great circle; various methods for finding a ship's place at sea; construction and use of charts, including topographical and hydrographic drawing; principles and use of the sextant and circle of reflection, and application of the glass prism to these instruments; the artificial horizon; the azimuth compass; methods of ascertaining the deviation of the compass, produced by local attraction on shipboard; the log, and other instruments for determining a ship's rate of sailing; sounding instruments; nature and use of the Nautical Almanac; relations of time under different meridians; computation of altitudes and azimuths of celestial objects; finding, by means of amplitudes and azimuths, the variations of the compass; finding the latitude by meridian observations of the sun, moon, planets, and stars; by observations near the meridian, by single altitudes at a given time, and by two altitudes of the same or different objects; finding the longitude by the chronometer, by lunar distances and by altitudes of the moon; Sumner's method of finding a line of position, and determining the ship's place by two such lines; rating a chronometer on shore by single altitudes, and by equal altitudes; and finding its error at sea by a series of lunar observations. Theory of the various problems of navigation and nautical astronomy, and the application of spherical trigonometry to their solution; [consideration of the true figure of the earth, and the corrections in nautical problems depending upon it.]

Fourth branch—Surveying.—Its principles and practice; measurement of heights and distances; leveling; trigonometrical surveying; hydrographical surveying; direct measurement of a base line; measurement by sound; running lines of soundings; reduction for tides; survey of a harbor or river; fixing the position of shoals, &c.; running survey of a coast; [geodetic corrections in extended surveys;] application of astronomical observations for azimuth, latitude, and longitude.

FIFTH DEPARTMENT—NATURAL AND EXPERIMENTAL PHILOSOPHY.

First branch—Mechanics of solids.—Forces and equilibrium; composition and resolution of forces; uniform and varied motion; motion of projectiles in vacuo, and in a resisting medium; center of gravity; equilibrium of a system of bodies; motion of translation of a body or system; motion and equilibrium about an axis; central forces;

falling bodies; pendulum and ballistic pendulum; laws of the planetary motions; effect of friction and adhesion, and of stiffness of cordage; mechanical powers; collision of bodies.

Second branch—Mechanics of liquids.—Mechanical properties of fluids; laws of equilibrium and pressure; flotation of bodies; stability and oscillation of floating bodies; specific gravity; [motion of liquids.]

Third branch—Mechanics of aëriform fluids.—Air-pump; weight and pressure of the atmosphere; laws of pressure; density and temperature; barometer; pumps; siphon; motion of elastic fluids.

Fourth branch—Acoustics.—Theory of waves in general; velocity of sound in different media; [molecular displacement; interference of waves;] reflection and echo; speaking and hearing trumpets; [vibrations of strings, of columns of air, and of plates and bells; communication of vibrations.]

Fifth branch—Optics.—General properties of light; catoptries; dioptries; chromatics; vision; optical instruments; [physical optics.]

Sixth branch—Electricity.—Statical electricity; voltaic electricity; magnetism; electro-magnetism; thermo-electricity.

Seventh branch—Heat.—Conditions of heat; characteristics of heat; theories of heat, ancient and modern; sources of heat, conduction, radiation, and convection; specific heat; sensible and insensible caloric; effects of heat; instruments used for the measurement of heat; thermo-dynamics.

Eighth branch—Chemistry.—Chemical physics; general principles of chemical philosophy; principal elements and their compounds, especially as illustrating combustion, corrosion, the metals, analysis of fuels, water, sea water, boiler scale, lubricating matter, and illuminating oils.

SIXTH DEPARTMENT—ETHICS AND ENGLISH STUDIES.

First branch—English grammar.—Orthography; etymology; the analysis and synthesis of sentences; idioms; punctuation.

Second branch—Descriptive geography.—Knowledge of the land and water surface; the grand divisions of the earth, and their relative situation; extent and boundaries of the several countries in each of the grand divisions; their natural productions; their commerce, manufactures, and governments; their naval and military strength. The use of globes and maps.

Third branch—Physical geography.—The form and motions of the earth; the seasons and climates; the distribution of land and water; mountain ranges; declivities and basins; desert and lake zones; river systems; the currents of the ocean; geographical distribution of plants and animals; influence of physical causes on man.

Fourth branch—Outlines of history.—Ancient and modern; in the latter, mainly that of America, England, France, and Spain, during the last three centuries; written biographical and historical exercises.

Fifth branch—Rhetoric.—Verbal criticism; the principles of taste, and their application; original compositions, embracing official reports.

Sixth branch—Ethics.—The ground of moral obligation; our relations to God, and consequent duties; personal duties; the chief relations of men to each other in society, and the duties thence arising. (To be taught by means of familiar lectures, given by the chaplain.)

Seventh branch—Political science.—A review of the origin and structure of the federal government of the United States of America; its constitutional law; the acts of Congress for the better government of the navy; the law of nations generally; the rights and duties of nations in peace and in war.

SEVENTH DEPARTMENT—FRENCH.

Reading and writing the French language correctly; exercises in speaking it.

EIGHTH DEPARTMENT—SPANISH.

Reading and writing the Spanish language correctly; exercises in speaking it.

NINTH DEPARTMENT—DRAWING.

Right-line drawing, sketching, and prospective; topographical and chart drawing.

The foregoing studies shall be distributed into four annual courses, and the midshipmen shall be arranged in four classes, each class pursuing one of these courses.

LETTER TO CANDIDATES.

NAVY DEPARTMENT,
Washington, January 31, 1863.

Application having been made on your behalf for admission to the United States Naval Academy, you will find, in the inclosed permit, a statement of the requisite qualifications for admission. Should you, on examination, show a fair proficiency in the branches of knowledge there indicated, and comply with the other conditions, you will be received as a midshipman, and become thenceforward an officer of the navy of the United States. So great is the importance of this step, not merely to yourself, but to the public, that the Secretary deems it a fit occasion to call your attention to the obligations which you assume in this new and honorable character.

You will bear in mind, then, that the government, in receiving you into its Naval Academy, undertakes to furnish you, at the public expense, with a superior scientific and practical education, under the instruction of thoroughly accomplished teachers. This is a privilege which, in the nature of things, can fall to the lot of but a small portion of the youth of the country, and it is one which, in all probability, many of the pupils of the Academy would otherwise not enjoy. It is, however, but the smallest part of what the government does for you. In admitting you to the Academy it secures to you an adequate provision, in a most honorable calling, for your future support, of which, while you live, nothing but incapacity or misconduct can deprive you. This great benefit, however, is not conferred on the pupils of the Naval Academy from any favoritism to them, but from great public motives. In the present state of the world the safety and honor of a country require that a portion of the young men should be regularly educated and trained in the science and art of war. This is necessary in both arms of the service, but peculiarly so in the navy. There are several instances in the land service of brilliant success on the part of chieftains who first entered the field in middle life; but the instances are much less frequent of distinguished naval commanders who did not commence their preparation in youth. This is the important reason for which the country has called the pupils of the Academy from their homes, and conferred upon them the above-mentioned enviable privileges.

You must, therefore, bear constantly in mind that these privileges, great as they are, are trusts for which the country will hold you strictly accountable. Henceforward, your time is not your own; it belongs to the public. The government takes you into its service in your youth because your preparation for the active duties of your career cannot be safely delayed to more advanced years. So much scientific, mechanical, and practical knowledge must be acquired, that nothing short of diligent application, commenced in early life, will enable the faithful officer to obtain a thorough mastery of his profession. It is a great error to suppose that nothing is necessary to make a good officer but the physical courage required in time of action, and which is to some extent a natural gift. This, of course, is indispensable; but it is one only of the qualifications for the service. Beginning at the foundation, the thorough-bred naval officer must know something of ship-building, alike in wood and iron; not that he needs the knowledge of the naval architect, but he must be able to judge of the work both of construction and repair, and be competent to provide a prompt remedy for disasters at sea. He must be intimately acquainted with the rig, equipment, and handling of his vessel; must understand the navigation of the ocean by sails and steam; be familiar with the great currents of the sea and of the atmosphere; and have an accurate knowledge of the principal ports and harbors in every quarter of the globe. He must be thoroughly versed in every variety of naval armament, ordnance, and ammunition—a field of knowl-

edge of which the limits have been greatly enlarged of late years, and in which still further advances are in rapid progress. Thus prepared in the lower branches of his profession, he must, by experience, gradually acquire on a small scale, and by diligent study of the lives and exploits of illustrious commanders, learn, as far as it can be learned in this way, not only how single ships are fought, but how great fleets are maneuvered and led to glorious victories.

To attain these great ends, abstract science and mechanical art furnish but the lower instruments. Moral influences must lend their all-powerful aid. Beginning with the arduous task of self-government, of which the habit must be acquired by cheerful conformity to the discipline of the Academy and the subordination of the service, the accomplished officer must learn the great art of governing others over whom he may be placed in the public service. He must learn the lesson of command in the school of obedience. A fractious and intractable pupil, if he succeed in obtaining promotion, will be nearly sure to make an arbitrary and tyrannical officer. Treated, as you will be, with parental kindness at the Academy, nothing that you will learn there is more important than the art of gaining the confidence and winning the affection of those whom you may hereafter command. The officer who acquires the good will of his men by kind words and deeds will be far more successful in enforcing the necessarily strict discipline of a man-of-war than one who deals in rough language, oaths, and harsh treatment. It is related of a distinguished British naval officer, (Lord Collingwood,) that the most refractory seamen were transferred to his vessel from all the other ships in the fleet, not because his discipline was the most severe, but because it was at once the most gentle and the most efficacious.

The duties thus enumerated, numerous and important as they are, are not all that devolve on the naval officer. In addition to the skill appropriately belonging to his profession, it is necessary that his manners should be marked with courtesy and refinement, and that his mind should be amply stored with useful knowledge. In the service of a great naval power, he will, on foreign stations, often be called upon to appear as the representative of his government. He will be brought into contact with the naval commanders of other countries, and sometimes with personages of the highest rank and consequence. On these occasions the good name and consideration of his country are, to some extent, in his hands. Still more, he will sometimes be obliged, with little opportunity for deliberation, and no time to consult his government, to decide important questions of the law of nations. It is evident that the most momentous consequences may flow from the degree of intelligence with which he may act on such occasions.

These are the reasons for which the country calls a select number of her children, in the morning of their days, to enter her naval service. The common parent of all, she bestows upon them these enviable advantages in order to fit them for the various and arduous duties to which I have alluded. The young officer, accordingly, when he enters the Naval Academy, becomes the pledged servant of the country, of the whole country, bound by the strongest ties of duty and gratitude to serve her with fidelity and zeal. He is henceforward an officer, not of the State in which he was born or in which he resides, but of the United States of America. He may have been born at the East or the West, the North or the South, but his allegiance is due to the Union—to the government which has educated him, which has commissioned him, and which he has solemnly sworn to defend. Wheresoever the voice of duty or lawful authority may call him, there he will cheerfully hasten to sustain the honor of his country's flag, to protect her lawful commerce, to combat her enemies. It may be his duty to risk, perhaps to sacrifice, his life, like the naval heroes who shed undying glory on the American Navy in the last generation, in open war against a legitimate foe; or to follow a piratical sea-rover, meanly fitted out by foreign cupidity for the work of devastation and plunder; or to pass weary days and nights in watching the ports of rebels in arms against their country; or to launch the terrific thunders of his broadsides on their fortresses—whatever the duty may be, it will be diligently, zealously, and heroically performed.

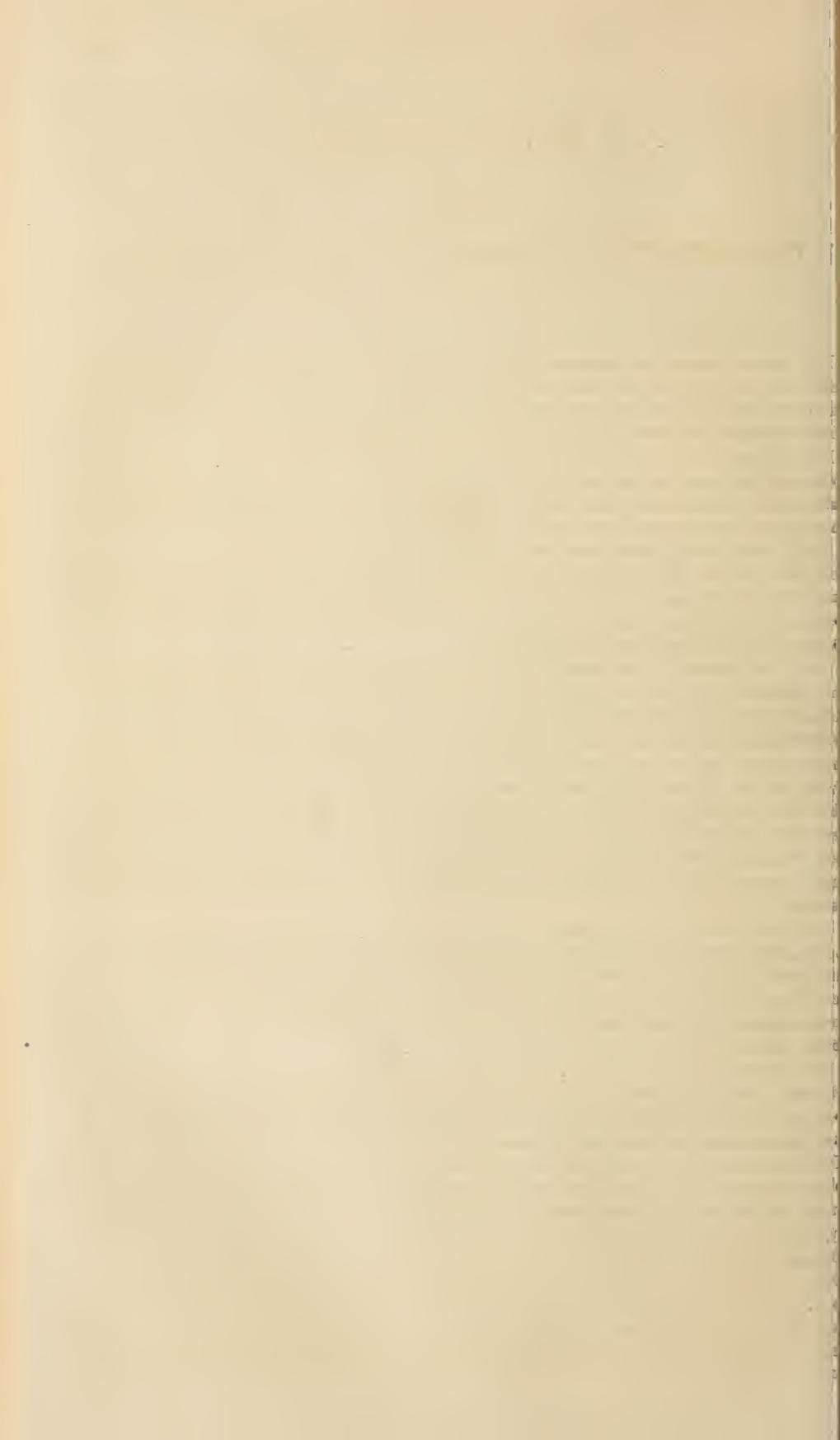
The character of the struggle in which the government and loyal people of the country have been engaged gives a peculiar significance to these considerations; nor can the Secretary forbear to allude to the all-important services which were rendered by the navy during that contest. The outbreak of the rebellion found this arm of the service on a peace establishment, its squadrons widely dispersed; some of its most important home stations situated in the seceding States, and soon seized—too often with treacherous connivance—and passed into rebel hands. Enfeebled as the navy was by these causes, and still further by the necessary sacrifice of vessels to prevent them from falling into the hands of the enemy; compelled to call into the service with urgent haste a numerous fleet of vessels not constructed for warlike purposes; above all, obliged, without previous preparation, to inaugurate a novel system of armature, the navy performed its herculean labors with an energy and success that reflect the highest credit on all belonging to it, officers and men, and which the Secretary takes great pleasure in holding up to the emulation of the young men at the Academy, who will hereafter be called upon to sustain the well-earned reputation of this branch of the service.

Especially let the young men now entering the navy impress upon their minds, as the great lesson of the day, that of all the duties of a faithful officer, the first and foremost is that of fidelity to his flag—the sacred symbol of the government which has trained him to its defense and confided its honor to his keeping. Let him, as he sets his foot on the threshold of the Academy, form the firm resolve, living or dying, to be faithful to that great trust. Let him, in advance, steel his mind against the wretched sophistry under the influence of which a portion of the naval officers in the rebellious States, (but by no means all of them,) deceived and misled, against their own better impulses, by the craft of politicians, have allowed themselves to raise a parricidal arm against their country, employing the fruits of the education received at its expense, and of the experience gained in its service, in aid of an unprovoked and cruel rebellion. Before he enters on actual service, the young officer takes a solemn oath "to support, protect, and defend the Constitution of the United States against all enemies, whether domestic or foreign;" and the Secretary would earnestly impress upon the young men, on their admission to the Naval Academy, that no human power can absolve them from that obligation. The madness of the hour may cause a misguided man to forget that he has called his God so to deal with him as he shall keep or break his oath, but the time will come, even in this world, when the sin of perjury will lie heavy on his soul.

But the Secretary is confident that no one of the young gentlemen now entering the Naval Academy, or already there, will ever incur the foul reproach of betraying the flag of the Union. They will uphold it on every sea and on every shore, by every effort and at every hazard, in the storm of the elements or the storm of battle. They will live for it and fight for it; if need be, they will bleed for it. While it floats they will stand by it, and, if it must sink, they will go down with it, rather than disgrace or betray it.

The Secretary forbears to enter into any particular statements as to the studies, exercises, and discipline of the Academy. The intelligent officer charged with the superintendence of the institution, and who possesses the entire confidence of the department, aided by his able and efficient associates, will from time to time call your attention to the various details of duty; and the Secretary confidently trusts that, under their guidance, you will, by the faithful improvement of your great opportunities, prepare yourself for eminent usefulness and high honor in the service of the country.

GIDEON WELLES,
Secretary of the Navy.



REGULATIONS

GOVERNING

THE ADMISSION OF CANDIDATES INTO THE NAVAL ACADEMY.

I. The number of midshipmen allowed at the Academy is one for every member and delegate of the House of Representatives, one for the District of Columbia, ten appointed annually at large, and ten selected each year from boys enlisted in the navy who have been at least one year in the service on board a naval vessel.

II. The nomination of candidates for admission from the District of Columbia, from the enlisted boys, and at large, is made by the President. The nomination of a candidate from any congressional district or Territory is made on the recommendation of the member or delegate, from actual residents of his district or Territory.

III. Each year, as soon after the fifth of March as possible, members and delegates will be notified, in writing, of vacancies that may exist in their districts. If such members or delegates neglect to recommend candidates by the first of July in that year, the Secretary of the Navy is required by law to fill the vacancies existing in districts actually represented in Congress.

IV. The nomination of candidates is made annually, between the fifth of March and the first of July. Candidates who are nominated in time to enable them to reach the Academy between the twentieth and thirtieth of June, will receive permission to present themselves at that time to the Superintendent of the Naval Academy for examination as to their qualifications for admission. Those who are nominated prior to July 1st, but not in time to attend the June examination, will be examined between the twentieth and thirtieth of September following; and should any candidate fail to report, or be found physically or mentally disqualified for admission in June, the member or delegate from whose district he was nominated will be notified to recommend another candidate, who shall be examined between the twentieth and thirtieth of September following.

V. No candidate will be admitted into the Naval Academy unless he shall have passed a satisfactory examination before the Academic Board, and is found (in the opinion of a medical board, to be composed of the surgeon of the Naval Academy and two other medical officers designated by the Secretary of the Navy) physically sound, well formed, and of robust constitution, and qualified to endure the arduous labors of an officer in the navy.

VI. Candidates for appointment as midshipmen must be between fourteen and eighteen years of age when examined for admission. All candidates for admission will be required to certify, *on honor*, to their precise age, to the Academic Board, previous to examination, and none will be examined who are over or under the prescribed age. They must be of good moral character, satisfactory testimonials of which, from persons of good repute in the neighborhood of their respective residences, must be presented; and testimonials from clergymen, instructors in colleges and high schools, will have special weight. They must also pass a satisfactory examination before the Academic Board in reading, writing, spelling, arithmetic, geography, and English grammar, viz: in *reading*, they must read clearly and intelligibly from any English narrative work—as, for example, Bancroft's History of the United States; in *writing* and *spelling*, they must write from dictation, in a legible hand, and spell with correctness both orally and in writing; in *arithmetic*, they will be examined in numeration and the addition, subtraction, multiplication, and division of whole numbers and vulgar and decimal frac-

tions, and in proportion, or the rule of three; in *geography*, they will be examined as to the leading grand divisions—the continents, oceans, and seas, the chief mountains and rivers, and the boundaries and population of the chief nations, their government, capitals, and chief cities; in *English grammar*, they will be examined as to the parts of speech and the elementary construction of sentences, and will be required to write an original paragraph of a few sentences. The Board will judge whether the proficiency of the candidate in these branches is sufficient to qualify him to enter upon the studies of the Academy.

VII. Any one of the following conditions will be sufficient to reject a candidate:

Feeble constitution; permanently impaired general health; decided cachexia; all chronic diseases, or results of injuries that would permanently impair efficiency, viz:

1. Infectious disorders.
2. Weak or disordered intellect.
3. Unnatural curvature of spine.
4. Epilepsy, or other convulsion, within five years.
5. Chronic impaired vision, or chronic disease of the organs of vision.
6. Great permanent hardness of hearing, or chronic disease of the ears.
7. Loss or decay of teeth to such an extent as to interfere with digestion and impair health.
8. Impediment of speech to such an extent as to impair efficiency in the performance of duty.
9. Decided indications of liability to pulmonary disease.
10. Permanent inefficiency of either of the extremities.
11. Hernia.
12. Incurable sacrocele, hydrocele, fistula, stricture, or hemorrhoids.
13. Large varicose veins of lower limbs. Chronic ulcers.
14. Attention will also be paid to the stature of the candidate; and no one *manifestly* under-sized for his age will be received into the Academy. In case of doubt about the physical condition of the candidate, any marked deviation from the usual standard of height will add materially to the consideration for rejection.

NOTE.—The Medical Board of 1864 adopted the following standard for the height of candidates: 14 years of age, 4 feet 10 inches; 15 years, 5 feet; 16 years, 5 feet 2 inches; 17 years, 5 feet 3 inches; 18 years, (nearly,) 5 feet 4 inches; the candidates to be of proportionate size, especially with regard to cerebral, osseous, and muscular development; the youngest to weigh not less than 100 pounds, and the oldest not less than 120 pounds.

15. The Board will exercise a proper discretion in the application of the above conditions to each case; rejecting no candidate who is likely to be efficient in the service, and admitting no one who is likely to prove physically inefficient.

VIII. If both these examinations result favorably, the candidate will receive an appointment as midshipman, become an inmate of the Academy, and be allowed his actual and necessary traveling expenses from his residence to the Naval Academy, and be required to sign articles by which he will bind himself to serve in the United States Navy eight years, (including his term of probation at the Naval Academy,) unless sooner discharged. If, on the contrary, he shall not pass both of these examinations, he will receive neither an appointment nor his traveling expenses, nor can he by law have the privilege of another examination for admission to the same class unless recommended by the board of examiners.

IX. When candidates shall have passed the required examinations, and been admitted as members of the Academy, they must immediately furnish themselves with the following articles, viz:

Two navy blue uniform suits;
One fatigue suit;
Two navy blue uniform caps;
One uniform overcoat;
Six white shirts;

|||
Six pair of socks;
Four pair of drawers;
Six pocket handkerchiefs;
One black silk handkerchief or stock;
One mattress;

One pillow;	One hair-brush;
One pair of blankets;	One tooth-brush;
One bed cover, or spread;	One clothes-brush;
Two pair of sheets;	One coarse comb for the hair;
Four pillow-cases;	One fine comb for the hair;
Six towels;	One tumbler, or mug; and
Two pair of shoes or boots;	One thread and needle case.

Room-mates will jointly procure, for their common use, one looking-glass, one wash-basin, one water-pail, one slop-bucket, and one broom. These articles may be obtained from the storekeeper of the Academy, of good quality and at fair prices.

X. Each midshipman must, on admission, deposit with the paymaster the sum of one hundred dollars, for which he will be credited on the books of that officer, to be expended by direction of the Superintendent for the purchase of text-books and other authorized articles besides those enumerated in the preceding article.

XI. A midshipman found deficient at any examination cannot, by law, be continued at the Academy or in the service, unless upon the recommendation of the Academic Board.

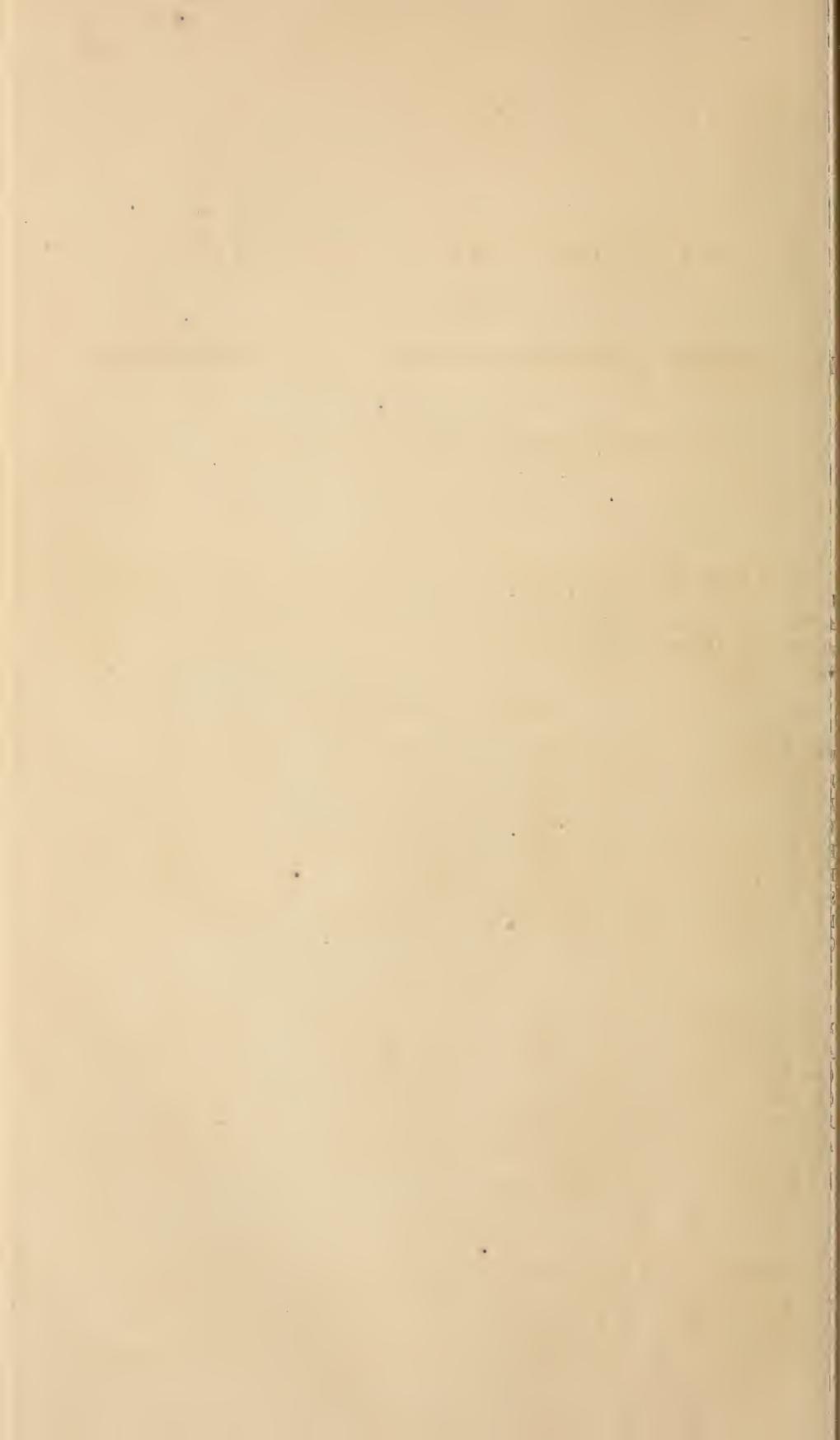
XII. A midshipman who voluntarily resigns his appointment within a year of the time of his admission to the Academy will be required to refund the amount paid him for traveling expenses.

XIII. A midshipman may be advanced to any class which he may be found qualified to join, either upon his admission or at any subsequent examination; and he may be graduated at any June examination at which he shall be found fully qualified to pass a graduating academic examination.

GIDEON WELLES,

Secretary of the Navy.

3 N A



OFFICERS AND MIDSHIPMEN

ATTACHED TO THE

PRACTICE SHIPS SAVANNAH, MACEDONIAN, AND DALE—SUMMER CRUISE, 1869.

Captain N. B. HARRISON, *Commanding the Division.*

SLOOP SAVANNAH.

Lieut. Commanders—C. L. Franklin, J. F. McGlensey, G. W. Coffin, F. A. Cook, and S. H. Baker. *Lieutenants*—W. W. Mead and T. P. Wilson. *Surgeon*—J. McMaster. *Assistant Surgeon*—F. K. Hartzell. *Paymaster*—W. F. A. Torbert. *Assistant Professors*—John M. Rice and Jules Leroux. *Boatswain*—P. J. Miller. *Gunner*—T. P. Venable. *Carpenter*—W. H. Rickards. *Sailmaker*—J. J. Stanford.

FIRST CLASS OF MIDSHIPMEN.

W. S. Baker.	M. D. Hyde.	J. B. Milton.	N. Sargent.
J. L. Carter.	J. D. Keeler.	J. B. Murdock.	J. H. Sawyers.
J. B. Collins.	F. L. Ludlow.	H. C. Nye.	H. W. Schaefer.
M. C. Dimock.	C. H. Lyman.	R. G. Peck.	T. C. Spencer.
H. F. Fickbohm.	C. McDonald.	H. R. Penington.	J. H. Utley.
F. Gentsch.	A. McCrackin.	C. P. Rees.	W. H. Van de Carr.
S. L. Graham.	G. W. Mentz.	W. Remsen.	C. E. Vreeland.
L. C. Heilner.	G. A. Merriam.	T. G. C. Salter.	F. Winslow.
G. W. Holman.			

SECOND CLASS.

W. C. Babcock.	W. P. Elliott.	F. W. Nabor.	C. Thomas.
A. C. Baker.	C. A. Foster.	T. S. Plunket.	B. C. Tillinghast.
C. W. Bartlett.	W. S. French.	G. A. Sanderson.	F. B. Veazie.
C. Bruns.	F. Guertin.	S. Seabury.	A. Ward.
P. Busbee.	F. S. Hotchkiss.	W. H. Slack.	D. Whipple.
A. J. Dabney.	J. L. Hunsicker.	S. A. Staunton.	J. M. Wight.
J. Downes.	H. McCrea.	R. D. Stevens.	D. L. Wilson.
J. T. Edson.	H. P. McIntosh.		

THIRD CLASS.

D. F. Baker.	R. H. Fletcher.	N. T. James.	W. Polmyer.
J. A. Barber.	C. E. Fox.	O. E. Lasher.	B. F. Rinehart.
C. H. Crosswait.	J. C. Fremont.	O. W. Lowry.	A. C. Thompson.
J. G. Dieterich.	W. H. Garrett.	C. H. Lyeth.	F. Tyler.
A. V. Dockery.	G. W. Hey.	J. Medary.	G. B. Vandervoort.

FOURTH CLASS.

D. R. Keeler.

W. M. Slough.

Total, 85.

SLOOP MACEDONIAN.

Commander—J. S. Skerrett. *Lieut. Commanders*—J. A. Howell, W. T. Sampson, B. J. Cromwell, C. F. Blake, P. F. Harrington, and F. Pearson. *Master*—William Watts. *Surgeon*—H. C. Nelson. *Assistant Surgeon*—M. C. Drennen. *Paymaster*—F. H. Swan. *Chaplain*—D. McLaren. *Assistant Professor*—L. F. Prud'homme. *Boatswain*—William Jones. *Gunner*—John Gaskins. *Carpenter*—Benjamin R. Murphy. *Sailmaker*—John W. North.

FIRST CLASS OF MIDSHIPMEN.

J. S. Abbot.	G. L. Dyer.	W. S. Holliday.	W. P. Ray.
C. Briggs.	F. Ellery.	E. M. Hughes.	L. L. Reamey.
J. H. Bull.	C. F. Emmerich.	J. J. Hunker.	C. S. Richman.
G. A. Calhoun.	J. M. Gore.	H. M. Jacoby.	H. O. Rittenhouse.
W. P. Conway.	H. L. Green.	L. P. Juett.	H. R. Tyler.
F. H. Crosby.	H. Harris.	B. Leach.	M. F. Wright.
J. W. Danenhower.	J. Hubbard.	A. B. Milliman.	

SECOND CLASS.

H. H. Barroll.	J. C. Cresap.	W. M. Irwin.	J. E. Roller.
J. C. Burnett.	J. H. Fraunces.	F. H. Lefavor.	B. B. Scott.
C. G. Calkins.	J. C. Freeman.	W. H. E. Masser.	W. E. Sewell.
A. H. Cobb.	C. D. Galloway.	W. A. Marshall.	T. C. Wood.
W. P. Clason.	F. E. Greene.	E. F. Qualtrough.	G. A. Vail.
A. A. Crandall.	G. C. Hanus.		

THIRD CLASS.

V. L. Cottman.	C. T. Mitchell.	W. T. B. O'Reilly.	W. H. H. Sutherland.
A. T. Freeman.	C. R. Miles.	J. M. Roper.	H. S. Waring.
R. H. Galt.	A. Mertz.	F. E. Sawyer.	J. H. Winlock.
W. C. Heacock.	F. H. Powers.	M. K. Schwenk.	G. T. Winston.
R. H. McLean.			

FOURTH CLASS.

T. F. Dixon.	R. S. Graham.	J. Y. Oliver.	T. E. D. W. Veeder.
Total, 70.			

SLOOP DALE.

Lieut. Commanders—Edward Terry, S. Casey, H. F. Picking, W. C. Wise, and W. B. Hoff. *Master*—F. H. Sheppard. *Past Assistant Surgeon*—E. C. Ver Meulen. *Boatswain*—William Long. *Gunner*—George Fouse.

FIRST CLASS OF MIDSHIPMEN.

J. P. J. Augur.	W. Kilburn.	W. G. Mayer.	T. Porter.
A. C. Dillingham.	C. P. Kunhardt.	H. Osterhaus.	W. M. Wood.

FOURTH CLASS.

G. S. Arnold.	J. R. Dexter.	S. C. Lemly.	H. J. Rodman.
C. J. Axson.	H. C. Fales.	J. S. Manley.	W. H. Schuetze.
C. J. Badger.	F. A. Fenn.	A. A. Michelson.	M. A. Shufeldt.
J. W. Bean.	G. Fowler.	F. J. Milligan.	J. Smith.
J. W. Blakely.	H. W. Greenough.	H. Morrell.	R. D. Strong.
R. W. Burns.	C. F. Holder.	J. O. Nicholson.	W. V. B. Topping.
A. L. Case.	T. B. Howard.	G. L. North.	E. B. Underwood.
W. N. Coret.	F. T. Jenkins.	H. C. Pell.	J. P. Underwood.
W. H. Craig.	J. P. Johnson.	C. F. Putnam.	F. C. C. Van Vliet.
F. W. Danner.	J. S. Jouett.	E. Raines.	F. A. Wilner.
C. W. Deering.	A. M. Knight.	J. M. Robinson.	L. Yound.
		Total, 52.	

Officers attached to the following vessels :

CONSTITUTION—(SECOND RATE.)

Lieut. Com'r GEORGE DEWEY, *in charge of vessels.*

Paymaster—Worthington Goldsborough. Chaplain—Henry B. Hibben. Mates—Joseph Rodgers, Frederick Miller, William G. Smith, and Roscoe V. Wickes.

GUNNERY-SHIP SANTEE—(SECOND RATE.)

Mates—Robert Robinson, Charles H. Chase, Lewis M. Melcher.

PRACTICE-SHIP DALE—(FOURTH RATE.)

Boatswain—William Long.

PRACTICE-SHIP MARION—(FOURTH RATE.)

Boatswain—Jeremiah Harding. Mates—Robert Silver, Charles J. Murphy, and William J. Best.

AMPHITRITE, (IRON CLAD, THIRD RATE.)

Second Assistant Engineer John Bostwick, *in charge of machinery afloat.*

MERCURY—(STEAM TUG.)

Mate John Brown, *in charge.*

PHLOX—(STEAM TENDER.)

Mate Benjamin G. Perry, *in charge.*

Mate—Lewis Burns.

SCHOONER AMERICA.

WYANDANK—(FOURTH RATE.)

PRACTICE-SHIP MACEDONIAN—(SECOND RATE.)

Paymaster—Francis H. Swan.

PRACTICE-SHIP SAVANNAH—(THIRD RATE.)

COURSE OF INSTRUCTION FOR ENGINEER CLASS.

(ACTING THIRD ASSISTANTS.)

PROGRAMME.

Mechanical Drawing.—*a*, Elements; *b*, Details and plans of machines.

Physics.—*a*, Heat; *b*, Steam.

Chemistry.—*a*, Chemical philosophy; *b*, Elements; *c*, Analysis—qualitative and blow-pipe; *d*, Coals, ores, and oils—lubricating and illuminating.

Thermo-dynamics.

Machines.—*a*, Cinematics; *b*, Theory of machines; *c*, Prime movers—Hydraulic motors, steam-engines, air-engines, electro-magnetic motors; *d*, Construction of machines; *e*, Location and erection of machines; *f*, Designs and estimates for, and reviews of, special machines.

Construction.—*a*, Plans and estimates for boiler and machine shops, foundries, smelting works, and rolling mills; *b*, Plans and estimates for ships' ways and slips.

Management of Machinery.—Practical exercises with steam engine and boilers.

Iron Ship-building.—*a*, Designing and construction; *b*, Inspection; *c*, Launching and repairs.

Practical Exercises.—Personal manipulations of tools used in working woods and metals.

REGULATIONS

FOR

THE APPOINTMENT OF CADET ENGINEERS IN THE NAVY.

I. In pursuance of the third and fourth sections of an act passed at the first session of the 38th Congress, approved July 4, 1864, "*To authorize the Secretary of the Navy to provide for the education of Naval Constructors and Steam Engineers, and for other purposes,*" and of the second section of an act passed at the first session of the 39th Congress, approved March 2, 1867, entitled "*An act to amend certain acts in relation to the Navy,*" applications will be received by the Navy Department for the appointment of cadet engineers.

II. The application is to be addressed to the Secretary of the Navy, and can be made by the candidate or by any person for him, and his name will be placed on the register. The registry of a name, however, gives no assurance of an appointment, and no preference will be given in the selection to priority of application.

III. The number of cadet engineers is limited by law to fifty. The candidate must be not less than eighteen nor more than twenty-two years of age, and his application must be accompanied by satisfactory evidence of moral character and health, with information regarding date of birth and educational advantages hitherto enjoyed. Candidates who receive permission will present themselves to the Superintendent of the Naval Academy between the 20th and 30th of September, for examination as to their qualifications for admission.

IV. The course of study will comprise two academic years. All cadets who graduate will be immediately warranted as third assistant engineers in the navy. The pay of a cadet is the same as that of midshipmen.

V. The academic examination previous to appointment will be on the following subjects, namely: *Arithmetic*; the candidate will be examined in numeration and the addition, subtraction, multiplication, and division of whole numbers, and of vulgar and decimal fractions; in reduction; in proportion, or rule of three, direct and inverse; and in involution and the extraction of square and cube roots. *Algebra*, (Bourdon;) *Geometry*, (Davies's Legendre;) Rudimentary *Natural Philosophy*; Elements of *Inorganic Chemistry*; English Grammar and English *Composition*; *History of the United States*; also, a brief outline of *Ancient and Modern History*. The candidate will also be required to exhibit a fair degree of proficiency in pencil sketching and right-line drawing, and he must be able to describe all the different parts of ordinary condensing and non-condensing engines, explain their uses and operation; also, the ordinary tools used for construction purposes.

VI. Any one of the following conditions will be sufficient to reject a candidate:

Feeble constitution; permanently impaired general health; decided cachexia; all chronic diseases, or results of injuries that would permanently impair efficiency, viz:

1. Infectious disorders.
2. Weak or disordered intellect.
3. Unnatural curvature of spine.
4. Epilepsy, or other convulsion, within five years.
5. Chronic impaired vision, or chronic diseases of the organs of vision.
6. Great permanent hardness of hearing, or chronic disease of the ears.
7. Loss or decay of teeth to such an extent as to interfere with digestion and impair health.

8. Impediment of speech to such an extent as to impair efficiency in the performance of duty.

9. Decided indications of liability to pulmonary disease.

10. Permanent inefficiency of either of the extremities.

11. Hernia.

12. Incurable saccocoele, hydrocele, fistula, stricture, or hemorrhoids.

13. Large varicose veins of lower limbs. Chronic ulcers.

14. Attention will also be paid to the stature of the candidate; and no one *manifestly* undersized for his age will be received into the Academy. In case of doubt about the physical condition of the candidate, any marked deviation from the usual standard of height will add materially to the consideration for rejection.

15. The Board will exercise a proper discretion in the application of the above conditions to each case; rejecting no candidate who is likely to be efficient in the service, and admitting no one who is likely to prove physically inefficient.

VII. If both these examinations result favorably, the candidate will receive an appointment as a cadet engineer, become an inmate of the Academy, and be allowed his actual and necessary traveling expenses from his residence to the Naval Academy, and be required to sign articles by which he will bind himself to serve in the United States Navy six years, (including his term of probation at the Naval Academy,) unless sooner discharged. If, on the contrary, he shall not pass both of these examinations, he will receive neither an appointment nor his traveling expenses, nor can he have the privilege of another examination for admission to the same class unless recommended by the Board of Examiners.

VIII. When candidates shall have passed the required examinations and been admitted as members of the Academy, they must immediately furnish themselves with the following articles, viz:

One navy blue uniform suit;

One fatigue suit;

One navy blue uniform cap;

One uniform overcoat;

Six white shirts;

Six pair of socks;

Four pair of drawers;

Six pocket handkerchiefs;

One black silk handkerchief, or stock;

One mattress;

One pillow;

One pair of blankets;

One bed cover or spread;

Two pair of sheets;

Four pillow-cases;

Six towels;

Two pair of shoes or boots;

One hair-brush;

One tooth-brush;

One clothes-brush;

One coarse comb for the hair;

One fine comb for the hair;

One tumbler, or mug; and

One thread and needle case.

Room-mates will jointly procure, for their common use, one looking-glass, one wash-basin, one water pail, one slop bucket, and one broom. These articles may be obtained from the storekeeper of the Academy, of good quality and at fair prices.

IX. Each cadet engineer must, on admission, deposit with the paymaster the sum of seventy-five dollars, for which he will be credited on the books of that officer, to be expended by direction of the Superintendent for the purchase of text-books and other authorized articles besides those enumerated in the preceding article.

X. While at the Academy the cadets will be examined, from time to time, according to the regulations prescribed by the Navy Department; and if found deficient at any examination, or dismissed for misconduct, they cannot, by law, be continued in the Academy or naval service, except upon recommendation of the Academic Board.

XI. A cadet engineer who voluntarily resigns his appointment will be required to refund the amount paid him for traveling expenses.

GIDEON WELLES,

Secretary of the Navy.

COURSE OF INSTRUCTION

FOR

CADET ENGINEERS AT THE UNITED STATES NAVAL ACADEMY.

MATHEMATICAL COURSE.

FIRST YEAR—FIRST TERM.

First branch—Trigonometry.—Analytical investigation of trigonometrical formulas, and their application to the solution of all the cases in plane trigonometry; the construction and use of trigonometrical tables.

Second branch—Application of algebra and trigonometry to the mensuration of planes and solids.

FIRST YEAR—SECOND TERM.

Third branch—Analytical geometry.—Construction of algebraic expressions; solution of determinate problems; equations of the right-line, plane, and conic sections, (discussion of the general equations of the second degree, involving two or three variables; determination of loci; principal problems relating to the cylinder, cone, sphere, and spheroids.)

SECOND YEAR—FIRST TERM.

Fourth branch—(Differential and integral calculus.)—Its principles, and its application to maxima and minima, and simpler problems relating to curves.)

NOTE.—The examination for admission will require a very thorough knowledge of Bourdon's Algebra as far as the general theory of equation; also, of Davies' Legendre and mensuration.

Those who pass a satisfactory examination for admission, and can show proficiency in the more advanced studies of the department, will be assigned corresponding positions in the course. Those who show a sufficient acquaintance with *all* the mathematical branches taught at this institution, will at once be excused from further instruction in this department.

NAVAL ENGINEERING.

Mechanical Drawing.—*a*, Elements; *b*, Details and plans of machines.

Physics.—*a*, Heat; *b*, Steam.

Chemistry.—*a*, Chemical philosophy; *b*, Elements; *c*, Analysis—qualitative and blow-pipe; *d*, Coals, Ores, and Oils—lubricating and illuminating.

Thermo-dynamics.

Machines.—*a*, Cinematics; *b*, Theory of machines; *c*, Prime movers—Hydraulic motors, Steam engines, Air engines, Electro-magnetic motors; *d*, Construction of machines; *e*, Location and erection of machines; *f*, Designs and estimates for, and reviews of, special machines.

Construction.—*a*, Plans and estimates for boiler and machine shops, foundries, smelting works, and rolling mills; *b*, Plans and estimates for ships' ways and slips.

Management of machinery.—Practical exercises with steam engines and boilers.

Iron ship-building.—*a*, Designing and construction; *b*, Inspection; *c*, Launching and repairs.

Practical exercises.—Personal manipulation of tools used in working woods and metals.

FRENCH.

Reading and writing the French language correctly; exercises in speaking it.

SPANISH.

Reading and writing the Spanish language correctly; exercises in speaking it.

NON-PROFESSIONAL PRACTICAL EXERCISES.

Fencing and gymnastics.

RESIGNATIONS, DISMISSALS, ETC.,

FROM

OCTOBER 1, 1868, TO SEPTEMBER 30, 1869, INCLUSIVE.

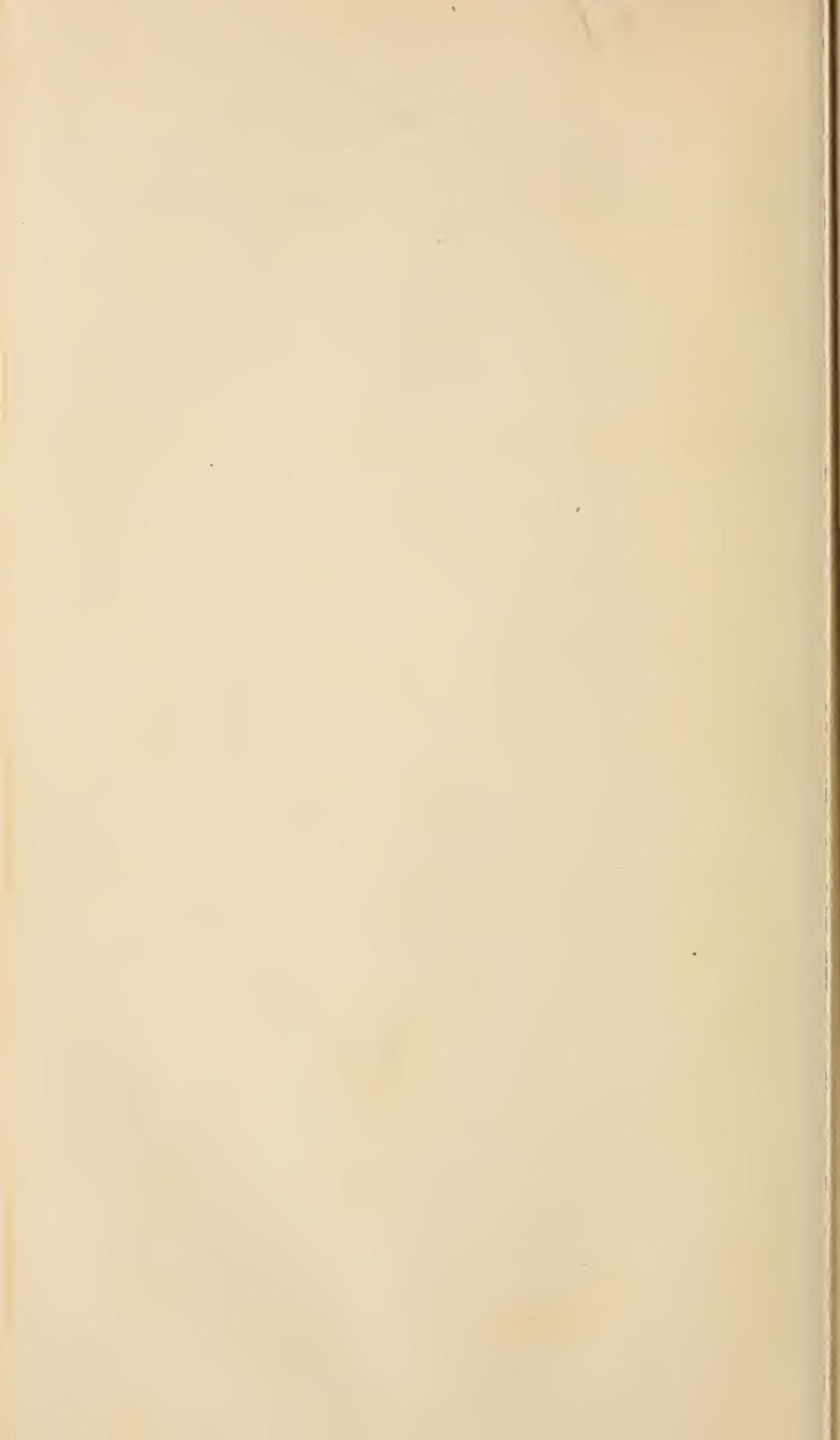
RESIGNATIONS.

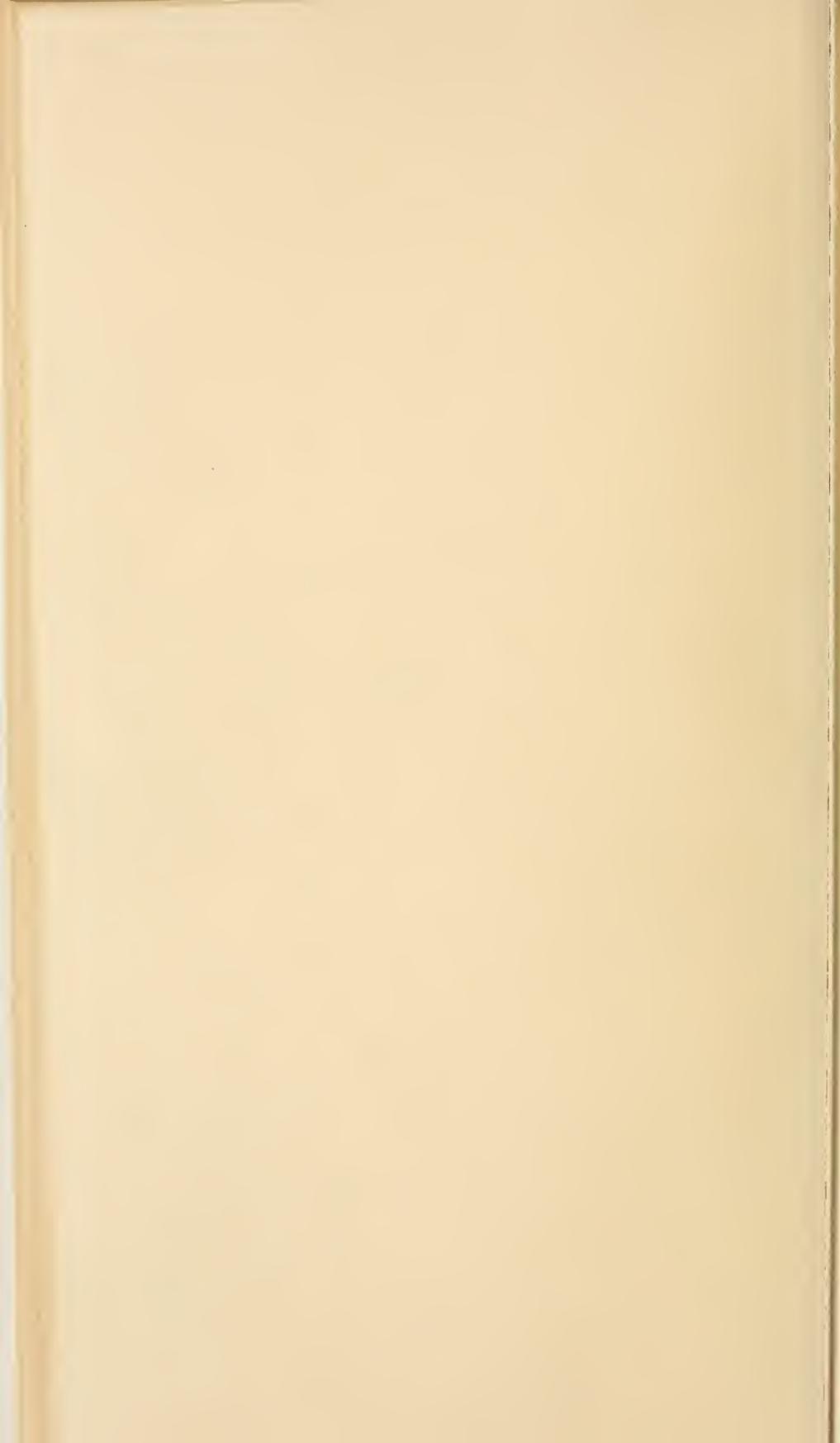
Midshipman Edward L. Shaffer	Oct. 13, 1868.
Midshipman Montgomery Wilcox	Oct. 13, 1868.
Midshipman Edward R. Norton	Nov. 13, 1868.
Midshipman Henry H. Kirkpatrick	Jan. 5, 1869.
Midshipman Halsey McKie Wing	Jan. 7, 1869.
Midshipman George B. Hoyt	Jan. 22, 1869.
Midshipman Henry E. Muhlenberg	Jan. 28, 1869.
Midshipman Thomas C. Denny	Feb. 3, 1869.
Midshipman William A. Siter	Feb. 3, 1869.
Midshipman Harrington L. Gosling	Feb. 6, 1869.
Midshipman William D. Rosenerantz	Feb. 8, 1869.
Midshipman Thomas Rodd	Feb. 13, 1869.
Midshipman Robert J. Anderton	Feb. 15, 1869.
Midshipman Levi Fox	Feb. 15, 1869.
Midshipman Charles H. Brahe	Mar. 15, 1869.
Midshipman Wisner G. Scott	Mar. 15, 1869.
Midshipman Philip Arnold	Mar. 15, 1869.
Midshipman Zachary T. Babcock	Mar. 15, 1869.
Midshipman Thomas D. Carnahan	Mar. 15, 1869.
Midshipman Walter Frazer	Mar. 15, 1869.
Midshipman Franklin L. Greene	Mar. 15, 1869.
Midshipman David S. Little	Mar. 15, 1869.
Midshipman William S. Long	Mar. 15, 1869.
Midshipman George D. McCarty	Mar. 15, 1869.
Midshipman Dwight L. Worsley	Mar. 15, 1869.
Midshipman William L. Baldwin	Mar. 15, 1869.
Midshipman Abel B. Brown	Mar. 15, 1869.
Midshipman Joel H. Burns	Mar. 15, 1869.
Midshipman Edward Lloyd	Mar. 15, 1869.
Midshipman Horace W. Mann	Mar. 24, 1869.
Midshipman Benjamin M. Shaffner	Mar. 24, 1869.
Midshipman Eugene C. Tiltman	Mar. 24, 1869.
Midshipman John R. Spears	April 9, 1869.
Midshipman Charles W. Brown	April 9, 1869.
Midshipman Arthur C. Smith	June 3, 1869.
Midshipman Albert B. Fowler	June 8, 1869.
Midshipman William S. King	June 8, 1869.
Midshipman George A. Zabriskie	June 8, 1869.
Midshipman Gaspar C. Barnette	June 8, 1869.
Midshipman Walter T. Livingston	June 8, 1869.
Midshipman Jacob K. Nagle	June 8, 1869.
Midshipman Alexander Kirkland	June 9, 1869.
Midshipman Lemuel Van Epps	June 9, 1869.
Midshipman James S. Manley	June 14, 1869.
Midshipman Thomas F. Dixon	Sept. 29, 1869.

DISMISSALS, ETC.

Midshipman George W. Cory, dropped.....	Oct. 19, 1868.
Midshipman Henry L. Heiskell, dropped	Oct. 19, 1868.
Midshipman Julian H. Brown, dismissed	Feb. 8, 1869.
Midshipman Hiram Hancock, dropped.....	Mar. 16, 1869.

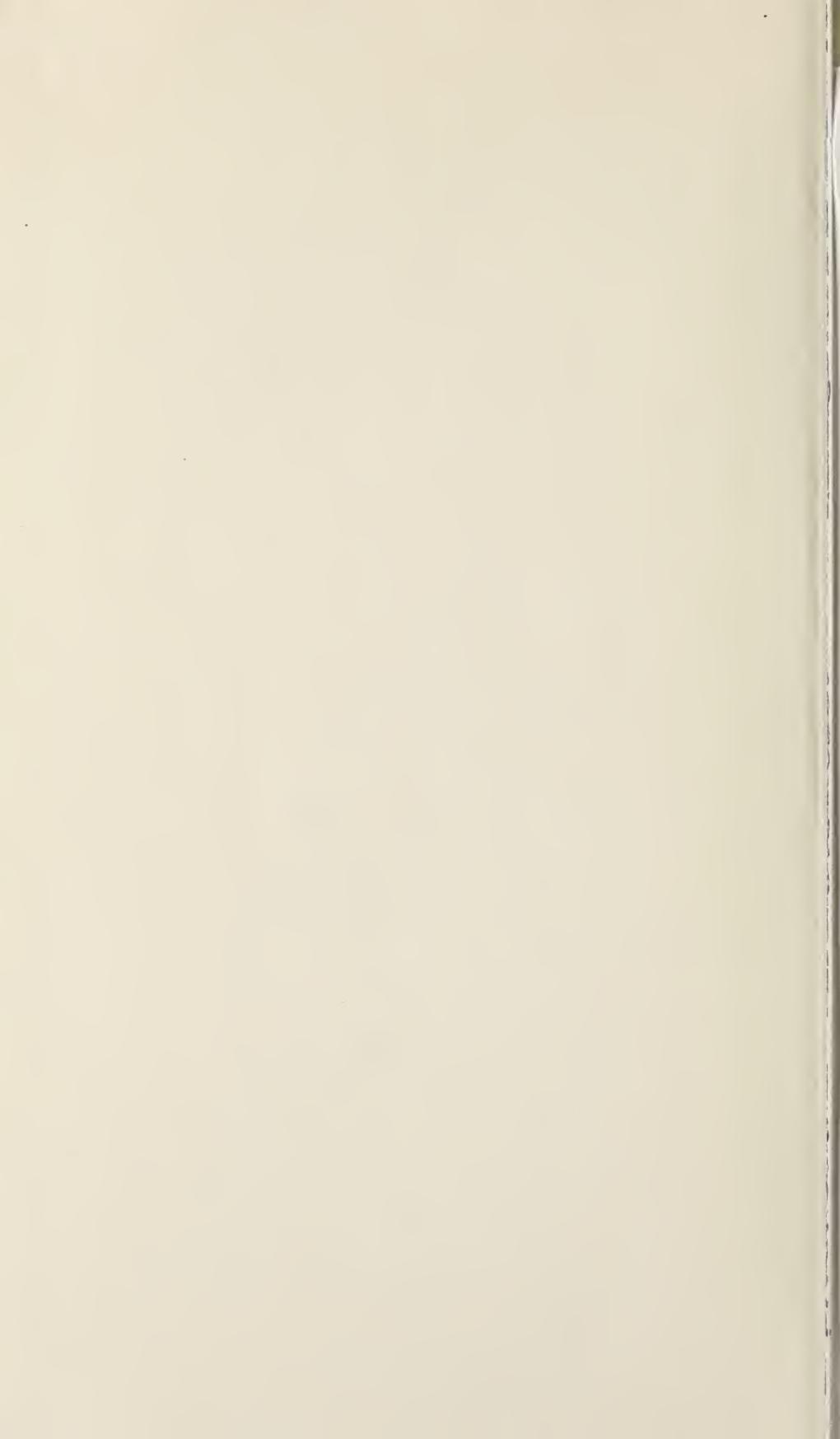
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Annual register

1869-1870

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